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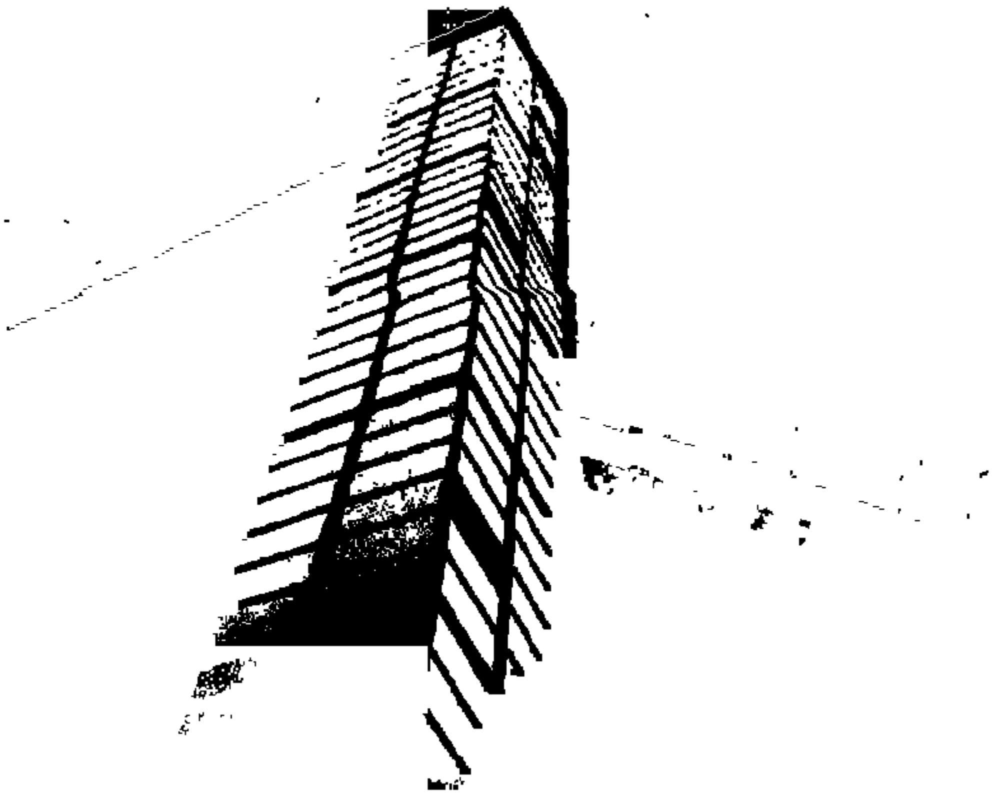

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Announcement

Special Number of University News on
'ADMISSION MODALITIES IN PROFESSIONAL EDUCATION INSTITUTIONS IN INDIA: THE LATEST TRENDS'

The June 7, 2004 (Vol 42, No. 23) issue of the University News will be a Special Issue on '**Admission Modalities in Professional Education Institutions in India : The Latest Trends**'. The sub-themes identified for the issue are :

- Basic Requirements for Admission to Professional Courses
- Admission Modalities in Government and Private Professional Institutions
- Policy Perspectives and Role of Regulatory bodies
- Fee Structure
- Testing Services and Role of Testing Authorities.
- Counseling Services

The issue will contain articles contributed by Senior Academics from different parts of the World Readers of the University News are also invited to contribute to the Special Number by submitting papers/articles on above theme and sub-themes by **May 10, 2004**. The papers will be published in the special issue subject to the approval of the Editorial Committee of the University News. The authors may follow the following guidelines for submitting the articles

The articles should be original and unpublished ranging between 3000-4000 Words

The manuscript for publication should be typed, double-spaced, with 1.5 inch margin on all sides on A4 size papers. A soft copy of the article in MS-Word format in 3½ floppy-disc labeled with name of the author and article should also be supplied with the manuscript.

References should be given in the text by giving the author's name, followed by the year in parenthesis. The full reference should be listed at the end in alphabetical order running the following style.

- ❑ Books: Miles, M.. & Huberman, M. (1994). *Qualitative Data Analysis London: Sage.*
- ❑ Articles: Over, R. (1982). Does research productivity decline with age? *Higher Education* 11:511-20.
- ❑ Chapter in a Book: Rendel, M. (1986). How many women academics 1912-1977? In R. Deem (ed.) *Schooling for Women's Work* London: Routledge.

Journal titles must be given in full and that the author's first name or initials may be used. Proper care in the presentation of references would be highly appreciated.

A declaration is to be made by the author in the covering letter that the paper is original and has not been published or submitted for publication elsewhere or presented in any seminar/workshop.Manuscripts should be sent to: **The Editor, *University News*, Association of Indian Universities**, AIU House, 16 Comrade Indrajeet Gupta Marg (Kotla Marg). New Delhi 110002. E-mail: un_aiu@yahoo.com or aiu@del2.vsnl.net.in. Fax: 011 - 23232131

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Human Rights Education: Challenges Ahead

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Education has always been recognized, though with varying degrees of conviction, as a vital element for individual self-fulfillment and development of society. It is also considered an important instrument of social mobility, equality and empowerment both at the individual and collective levels, as such, imperative for the development of the society in a meaningful way. In today's changing circumstances when work is becoming a person's most precious asset, communications (multimedia and cyberspace) are making massive amounts of information available to everyone, and despite globalization, conflict within local culture is on the rise, there is a need to introduce education which imbibes the values of tolerance, solidarity and cooperation. Education that liberates minds from the thralldom of obscurantism, bigotry and narrowness and nurtures, democratic values and promotes a societal transformation based on human rights culture.

Education is in a position to promote respect for human rights and fundamental freedom. World conference on human rights held at Vienna in 1993 reaffirmed that states are duty - bound, as stipulated in the universal declaration of human rights and the international covenant on economic, social and cultural rights and in other international human rights instruments, to ensure that education promotes respect for human rights and fundamental freedom. States must work out education programmes that promote tolerance and foster peace and understanding among the nations as well as different social, religious and ethnic groups.

The world Plan of Action adopted by the International Congress for Education and Democracy in Montreal (March, 1993) called for Global Mobilization of the resources from the family to the United Nations to educate individuals and groups about human rights so that inappropriate conduct leading to a denial of human rights could be changed. "Learning is not an end in itself, but rather the means of ending violations of human rights and building a culture of peace based on democracy, development, tolerance and human respect". The document 'Plan of Action' by UNESCO further mentioned that though the cold war has come to an end and walls have come down, the last decade of the twentieth century is witnessing the re-occurrence of most serious human rights violations caused by racism, xenophobia, sexism and religious intolerance. No less disturbing for the protection of human rights are the threats stemming from environment degradation and from new biomedical technologies.

Human rights are a set of principled ideas about the treatment to which all individuals are entitled by virtue of being human. Over time, these ideas have gained widespread acceptance as international norms defining what was necessary for humans to thrive, both in terms of being protected from abuses and provided with the elements necessary for a life in dignity. Human rights norms create a relationship between individual (and very occasionally collective) right holders and other entities (usually states) that have obligations. The human rights discourse is universal in character and includes claims of equality and non-discrimination. According to Laski, rights are not merely certain legal interests of the individual but the requirements for the development of his personality, both physical and spiritual. They are essential for his development not only as an individual but also as a member of the society. Rights in that senses are not absolute but tempered by regards for the rights of others and by the rights of the society.

Rights and duties are two sides of the same coin. The fulfillment of the duty of each individual is prerequisite to the rights of all. Rights and duties are inter-related in every social and political activity of man. While rights exalt individual liberty, duties express the dignity of the liberty. The true function of a code of human rights and duties is thus to mark out the acceptable shape and relationships of a just society - including, today, a peaceful world community. At our new stage of development powers, that community needs to allow, is its present policies, for the rights of future citizens. This in turn means that it should at least possess a loose standing body of high authority to oversee world development. It has, too, to embrace the full gamut of essential rights and duties - individual and collective - which ramify increasingly into every sphere of activity and into all international agreements.

The final justification, therefore, for a code of rights is, first, that it defines the conditions in which human potential can develop peacefully in an inter-dependent milieu; and, second, that such a code, whether for the individual or for interstate relations, offers the only frame of common ideas that can span the diversity of cultures, religions, living standards, and political and economic systems to create a common nexus of humane practice for an emergent world community.

There are two types of rights, namely justice rights and juridical rights. The rights, which are primarily secured through juristic process, are conventionally political rights and civil rights. But as the role of the state or ancillaries of state instruction tend to pervade the totality of human existence, such rights are infact bound to the powers of these instructions. There are justice rights the basis for which is the constant and perpetual desire to render every one his due. These emanate from empathetic identifications of humans individually and/or collectivities with the entities of the corresponding order. Looked in this way there is a dialectical relation between juridical rights and justice rights. Human rights are clear examples of what constructivists call 'social constructions' - invented social categories that exist only because people believe and act as if they exist, that nevertheless come to have the capacity to shape the social and political world. The idea of rights has developed a grip on human imaginations that has exerted an increasingly powerful impact on world politics In the long run the goal of human rights education should be to facilitate the transformation of juridical rights to justice, which should primarily be the concern of the civil society.

As far as juridical rights are concerned the law faculties of the different universities will have important role to play. They will have to continuously keep them abreast of the expanding orbit of the human rights concern and also work for refinement of the human rights instruments.

In the human rights discourse, in recent times, human rights education has assumed great eminence and special significance in order to ensure success of democracy, socialism and secularism throughout the world. World bodies like United Nations and several of its associate organizations, at the global level and the National Human Rights Commission, at the National Level, have been stressing the importance of including Human Rights Education in the curriculum. Education of Human Rights in the ultimate analysis means the empowerment of each and every individual to participate with an active sense of responsibility in all aspects of political and social life. It is the continuing process of fostering attitudes and behaviour conducive to the art of thinking both independently and cooperatively which forms the real democratic ethos and which is antagonistic to discrimination and injustice The Third World Congress on Human Rights, 1990, urges that human rights education should be understood as encompassing formal, non-formal and informal education, and should also aim to reach parents and policy makers. It aims at developing the individual awareness of the ways and means by which human rights can be translated into social and political reality at both the national and international level.

At the non-formal, primary and secondary levels, the focus can be on inculcating an attitude of self-esteem, respect for ideas and beliefs of other people. At the formal level essence, of human rights can be disseminated, as part of environmental studies in the primary classes, the essence in some critical detail along with the instruments can be part of social studies course in the secondary classes. Whether it will be a distinct unit or woven into the total social studies curriculum needs to be thought about. Different countries have evolved their own systems for introducing human rights education in history, civics and geography curriculum. Any historical approach to the derivation of the human rights should introduce students to the significanct stages in the growth of civilization, in its social, economic and political aspects. and on culture and scientific development. The course should also lay stress on the contribution of different peoples to the common heritage of mankind. This will help in promoting, knowledge and appreciation of diversities. By introducing students to changes in culture, society, economy and polity through the ages the world over, will promote a critical view on issues which have a bearing on human rights. A major part of this course should deal with colonialism, imperialism and the successful struggles for national liberation, movements for popular sovereignty and democracy and for social equality and justice, the rise of authoritarian, fascist and racist regimes and their collapse, all of which have a bearing on understanding the concept of human rights and its dynamics. The geography course can lay stress on global and local issues pertaining to environment, availability and management of natural resources and can promote concern about deprivation, poverty, diseases, illiteracy and inequalities amongst human beings. The main focus of civics education should be to bring about an awareness and critical understanding of the social, economic and political challenges facing our country and the world as a whole. The course can specify the study of problems of minorities and depressed sections of Indian Society and of contemporary world problems, particularly human rights, disarmament and new international economic order

Teaching about human rights should go hand in hand with a greater democratization of school life and be supplemented by a broad range of extra curricular activities. Human rights, to be taught effectively calls for participatory teaching and learning which leads to the acquisition of human rights skills. Alongwith this, the schools social milieu should encourage pupils to recognize the rights of other people to express their personalities and to tolerate other people's ideas and conceptions — that is, to practice human rights. The school's efforts should be reinforced, strengthened by the other forces operating in the environment, particularly, State agencies, community institutions, the home, family and the mass media.

Rather than teaching human rights as a separate subject at the under graduate level, different aspects of human rights issues can be highlighted in different subjects. It is only after adequate research has been done on various aspects of human rights including on the philosophical, axiological, historical dimensions, cross currents in the adoption of the different human rights instruments, their mutual compatibility, their internal structural congruity, their harmonic relations with the historical ecology of the concerned population, that human rights as a separate subject can be introduced at the graduate and post graduate degree levels.

In the meantime universities can introduce short duration Certificate Course of three-month duration. The broad contents of these courses can encompass the areas such as philosophical, cultural and historical perspectives, theories and movements, linkages between human rights and democracy, development, peace and harmony. Besides, national perspectives dealing with historical contents, protection regime especially for the weak and marginalized groups, violation of the human rights by the state and its agencies; Violation by armed, political and dominant groups, the role of national and statutory commissions. Media and non-governmental organization vis-à-vis protection and promotion of human rights, the regional perspectives including features of region in which India is located such as pluralism, poverty, social structure, social instability . illiteracy etc. and international perspectives including study of treaties and texts of international community for the protection of human rights, role of developed societies and international institutions vis-à-vis human rights. The textual teaching materials can be integrated appropriately with other material making adequate use of local experience and highlighting the ground realities.

In the emerging scenario, universities and colleges have to play an important role. They have to respond to the public needs with all their instructional autonomy and its concomitant role for social action and accountability. NPE (1986) had also emphasized the need for human right education through the promotion of values such as of heritage, democracy, secularism, access, equity, protection and removal of social barriers etc. Going past information boundaries we have to structure information and knowledge in the context of

(Contd on page no 8)

Designing Instruction for Constructivist Learning: A New Paradigm

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Instructional design is concerned with selecting optimal methods of instruction to bring about the desired changes in students' knowledge and skills. Currently the filed of instructional technology draws principles of instructional design and development from empirical studies conducted within the traditions of variety of paradigms and disciplines: behavioural learning theory, cognitive theory, systems theory, information processing, media design production, and so forth. Past 100 years of research show gradual shift in all aspects of the instructional design process: the concept of the learning objectives; specification of goals; and methodologies for analysis, synthesis and evaluation. Mayer (1992) has shown how three main views on learning: learning as response strengthening, learning as knowledge acquisition, and learning as knowledge construction, have influenced different aspects of instructional design during the last 100 years

Earlier instructional designs, developed in the first half of 20th Century, tended to rely on the behavioural learning theories, which viewed learning as response strengthening. Here the role of the learner is to passively receive instruction and that of the instructional designer is to create environment for learning to take place. But as the cognitive theory moved to the forefront in 1950s, learning was viewed as acquisition of knowledge According to this view information is a commodity that can be transmitted directly from teacher to learner. The instructional designer's role is to create environment in which the learner is exposed to large amount of information through textbooks, lectures and multimedia programmes The instructional design derived from the constructivist theories in 1980s and 1990s is based on the conception of learning as a constructive process. According to this view, the learner is a sense maker, whereas the teacher is a cognitive guide. The instructional design is concerned with creating environment in which the learner interacts meaningfully with academic material, including fostering the learner's process of selecting, organising and intergrating information. Though constructivist approaches have not yet replaced behavioristic-objective, they have approaches to the design of instructinal activities, they have significantly contributed to the understanding of how learning should be conceived of and how it should be designed so that optimum learning takes place (Dash, 2002).

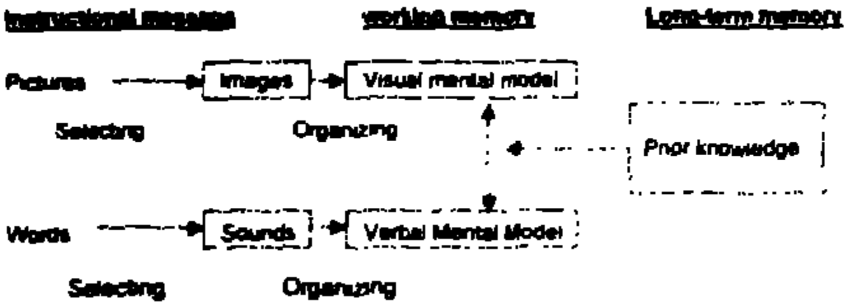
Constructivist Learning: The SOI Model

Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. Each of us generate our own 'rules' and 'mental models', which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences

Constructivist conceptions of learning and instructional design can be better understood when we conceive them as opposed to that of the objectivist conceptions The later conceptions assume that knowledge can be transferred from teachers or transmitted by technologies and acquired by learners The instructional design in this include, the analysis, representation, and resequencing of content and tasks in order to make them more predictably and reliably transmissible Constructivist conceptions of learning, on the other hand, assume that knowledge is individually constructed and socially constructed by learners based on their interpretations of experiences in the world Since knowledge cannot be transmitted, instruction should consist of experiences that facilitate knowledge construction Thus, objectivism and constructivism are usually conveyed as incompatible and mutually exclusive

Constructivist learning depends on the activation of several cognitive processes in the learner during learning, including selecting relevant information, organizing incoming information, and integrating incoming information with existing knowledge. Mayer (1996) referred to this analysis as the SOI model to highlight three crucial cognitive processes in Constructivist learning: S for selecting, O for organizing, I for integrating. Unlike earlier theories of learning which emphasized the process by which presented information is encoded into long-term memory, theory of Constructivist learning focuses on the way that knowledge is constructed by the learner in working memory. In this construction process the learner used both incoming material from the environment and prior knowledge from long-term memory. The SOI model is a theory of learning that can be used to generate instructional implications.

Fig-1 SOI Model of Constructive Learning from Words and Pictures



Selecting Relevant Information

The first process is the selection of relevant information for further processing. When words and pictures are presented to a learner in an instructional message, the learner represents them briefly in sensory memories. Only some of these representations can be retained for further processing in working memory because of the limited capacity of the human information processing system. Thus, an important cognitive process is the learner's selection of relevant information to be retained in working memory

Organizing Incoming Information

The next process involves organizing the selected auditory representation into a coherent verbal representation and organizing the selected images into a coherent pictorial representation In this process the retained visual images are connected by appropriate links (such as cause and effect) and retained verbal representations are connected by appropriate links (such as cause and effect)

This activity takes place in working memory, which is constrained by a limited amount of resources for processing The outcome of this process is the construction of a coherent pictorial representation (or pictorial mental model) and a coherent verbal representation (or verbal mental model).

Integrating Incoming Information

In the third process, students make one-to-one connections between corresponding elements of the pictorial and verbal representations they have constructed using prior knowledge. The outcome of this process is an integrated representation of the presented material. The final step in the learning process is encoding, in which the mental representations constructed in working memory are stored in long-term memory for permanent retention. Although this phase is the focus of earlier conceptions of learning, constructivist views of learning emphasize the role of cognitive processes used to build knowledge in working memory, such as selecting, organizing, and integrating.

Instructional Design for Constructivist Learning

The constructivist view of learning as knowledge construction has immense implications for instructional design. Research on instructional advancements of the last 30 years, particularly in the areas of cognitive processing, teacher effects, and teaching of cognitive strategies, revealed that this view affects all the important aspects of the design process, e.g. principles of learning, classroom environment, analysis of learners, evaluation, instructional strategy (Rosenshine, 1996). The ideas represented by these researches can and should be used to improver instruction for constructivist learning:

(i) Principles of Learning

There are several principles of constructivist learning. The four guiding principles include:

(i) Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.

(ii) Meaning requires understanding wholes as well as parts, and parts must be understood in the context of wholes. Therefore, the learning process focuses on primary concepts, not isolated facts.

(iii) In order to teach well, we must understand the mental models that students use to perceive the world and the assumptions they make to support those models.

(iv) The purpose of learning is for individual to construct his or her own meaning, not just memorise the right answers.

(ii) Classroom Environment

A constructivist classroom must obviously operate in the backdrop of constructivist learning environments and the key principles of constructivism. In a constructivist classroom students are actively involved in the learning process and given the opportunity to construct knowledge based on their own background. The constructive teacher sets up problems and monitors student exploration, guides the direction of student inquiry, and promotes new patterns of thinking. Classes can take unexpected turns as students are given the autonomy to direct their own explorations. In specific terms a constructivist classroom bears the following characteristics:

- Students' autonomy and initiative are accepted and encouraged.
- The teacher asks open-ended questions and allows wait time for responses.
- High level thinking is encouraged, i.e. students are encouraged to connect and summarise concepts by analyzing, predicting, justifying, and defending their ideas.
- Students are engaged in dialogue with the teacher and with each other.
- Students are engaged in experiences that challenge hypotheses and encourage discussion.
- Teachers use raw data, primary sources, and interactive materials rather than relying solely on another's set of data.

(iii) Analysis of Learners

From a traditional instructional design view point, the 'learner' is most often the pool of learners, the average conditions and the range under which the system must function. It is the concept of general learner that guides the design of instruction.

The constructive approach holds that every learner will have a unique perspective of acquiring learning experience. The child taught herself by gathering information and experiencing the world around her. Constructivism emphasizes the importance of the knowledge, beliefs, and skills an individual brings to the experience of learning. It recognizes the construction of new understanding as a combination of prior learning, new information, and readiness to learn. Individuals make choices about what new ideas to accept and how to fit them into their established views of the world. The concept of global learners, therefore, is not a part of the constructive perspective.

(iv) Evaluation

In traditional instructional design, evaluation presumes a universal goal or objective for the instruction. An evaluation programme in this intends to measure the progress towards the goal; and the information compiled about many students suggest the relative proficiency of the system in terms of achievement of the goal or objectives.

From a constructivist perspective, evaluation of student learning should not be judged only on the specifics of knowledge, but whether the student can solve the problem posed with a viable solution (Sharma, 2001). From the constructivist standpoint an evaluation programme must examine the thinking process. It's goal is to improve the ability to use content domain in authentic tasks. Possible ways of evaluation would, for example, be asking students to : think aloud, address a problem in the field of content and then defend their decision, or reflect on their own learning and document the process through which they have constructed their view of the content.

(v) Instructional Strategy

From the traditional instructional design view point teachers are systematically told during pre-service as well as in-service training programme as how to motivate learners using variety of reinforcement. The so called effective teachers are tempted to apply positive reinforcement even when the student responses are wrong; and provide vast amount of information within short span of time using multi-media. Such practice, mostly use to strengthen student responses and help in the acquisition of knowledge. From the constructivist view point the main concern is to create a classroom environment wherein students are tempted to construct their own knowledge in their own way. Such situation demands creative role of the teacher, particularly in designing and the management of learning environment.

Research on instructional advancements of the last 30 years, particularly in three areas: cognitive processing, teacher effects, and teaching of cognitive strategies, suggest specific instructional principles that can be of great use to create constructivist learning environment in the classroom. Some important and workable ones are as follows (Rosenshine, 1996, pp. 1-19):

- *Present new materials in small steps*

Research on teacher effects reveal that the least effective teachers would present an entire lesson, and then tells students to work out the problems. The most effective teachers, on the other hand, taught new material in small steps. This procedure of teaching in small steps fits well with the findings from cognitive Psychology on the limitations of our working memory.

- *Help students develop an organization for the new material*

New material is stored in the long-term memory when one processes it. The quality of storage can depend on the level of processing. The research on cognitive processing support that processing of new materials takes place through such activities as rehearsal, review, comparing and contrasting new materials with prior ones, summarise information, and drawing connections (Palincsar and Brown, 1984).

- *Guide student practice*

The concept of guided practice was developed by Hunter (1982). Research on the teacher effects revealed that it was not sufficient to present a lesson and then ask students to practice on their own. The most effective teachers presented only some of the material at a time, and then guided student practice in different ways e.g. working a few problems at the board and discussing the steps; checking the answers of the entire class; asking students to work together.

- *When teaching higher level tasks, support students by providing them with cognitive strategies.*

A cognitive strategy is a heuristic or guide that serves to support or facilitate learner to perform higher level tasks. Teaching students to generate 'questions about their reading, for example, is a cognitive strategy Intervention studies have shown that students who were taught various cognitive strategies obtained significantly higher posttest scores than did students in the control groups (Pressely et al., 1995).

- *Help students learn to use the cognitive strategies by providing them with procedural prompts and modeling the use of these procedural prompts.*

Teaching cognitive strategies to the students is as important as providing cognitive strategies, while dealing with higher level tasks. Cognitive strategies cannot be taught directly. Rather they can be taught by providing students with a variety of support structures or scaffolds (Palincsar and Brown, 1984). A scaffold is a temporary support used to assist a learner during initial learning.

The first step in teaching a cognitive strategy is the development of procedural prompt. These procedural prompts supply the students with specific procedures or suggestions that facilitate the completion of the task. Learners can temporarily rely on these hints and suggestions until they create their own internal structures (Scardamalia and Bereiter, 1985). The words 'who', 'what', 'why', 'where', 'when' and 'how', for example, are procedural prompts that help students learn the cognitive strategy of asking questions about the material they have read.

Modeling is important in teaching cognitive strategies because a teacher cannot specify all the steps in these strategies. Models provide an important scaffold for the learner. Models of how to use procedural prompts, for example, can be used during initial instruction, during practice, and after practice.

- *Provide for extensive student practice*

Research on both teacher effects and cognitive processing suggest that students need extensive practice in order to develop well-connected networks. The most effective teachers made sure that such practice took place after there has been sufficient guided practice, so that students were not practicing errors and misconceptions (Rosenshine and Stevens, 1986).

Conclusion

The constructivist approach to learning and designing instruction has emerged as the most widely accepted and adopted approach throughout the world. It is the considered option, evolving out of a plethora of research on instructional advancements of the last 30 years, particularly in the areas of: (i) research on cognitive processing; (ii) research on the teacher effects, i.e. studies of the teachers whose classes made the highest achievement gain compared to other classes; and (iii) intervention studies in which students were taught cognitive strategies they could apply to their learning (Rosenshine, 1996, pp. 1-19). The constructivist revolution offers a new vision of the learner as an active sense-maker and suggests new methods of instruction. It holds the view that each child is capable of learning and has the capacity to construct knowledge in his own way. Once we believe this, we should not accept the adequacy and relevance of a common approach to instruction at any level. It is, however, seen that most of our teachers seek to transmit vast amount of information, within a limited time, using textbooks and multimedia. This is how human brain is misutilised in our schools. The use of cheap electronic devices, like computers for storing vast amount of information can substantially reduce the burden of human brain. Now human brain which posses the ability to think can profitably be used to perform those tasks that cannot be done by a machine, e.g. decision making, creative thinking, problem solving. In this context a comprehensive paradigmatic change in our teacher-education programme-both pre-service and in-service, has become imperative. Despite criticisms, constructivism does present an alternative view of learning other than the objectivistic conception of learning, and provides a set of design principles and strategies to create learning environments wherein learners are engaged in negotiating meaning and in socially constructing reality (Tam, 2000).

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(Contd from page no 3)

current questioning and offer courses for the systematic social action through reformed strategies. For this, development of courses on human rights has to be a continuous exercise to be matured through workshops, for better collective thinking and social actions through improvement and consensus building. The courses must reflect the national concern and regional emphasis.

Before introducing human rights education, we will have to address certain pertinent questions regarding the present state of educational scenario. Most fundamental issue will be that, can human right education come out of social machinery already generated by existing education system. Another significant issue will be, can it be practical oriented curriculum where not only education about human rights is given but knowledge is also important about what should be done if rights are violated. More knowledge about human rights is not sufficient unless there is understanding as to how human rights can easily become vulnerable to abuse of various structures and processes of power.

With the aims of sensitizing and changing the attitude of mind and creating a human right culture, the role of teaching methods remain crucial in the achievement of objectives. With the present state of teaching methodology, imparting education of concern, would make the human rights education more academic. It is important to have practical oriented teaching - bringing in field experiences in the classrooms and taking students to community

The UGCs standing committee on human rights, constituted a sub-committee for drafting an 'approach paper' for the UGC initiative and to define strategies for the IXth plan to promote Human Right Education in higher education. The core of the approach was that the respect and realization of human rights require evolving a culture that is more sensitive to the basic needs of every human being. This goal of ushering in human rights had been incorporated in the constitutional scheme, the culture has still remained a reality. A deliberate attempt is therefore, required to be made education as a key instrument for bringing change in social and cultural attitudes in relation to human rights.

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Training Activities in the Area of Nutrition and Health : An Analysis

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The increasing faith in training is backed by the evidence generated through countless surveys conducted which suggests that intensive training results in improvement of methods, reduction in learning time, reduction of costs, improvement of quality, efficiency, discipline, sense of belongingness and morale, change in employee attitude and imbibing a sense of service and integrity. There are a number of institutions, agencies and departments involved in the training of personnel of NGOs working in the area of nutrition and health. These include Ministry of Health and Family Welfare, Department of Food and Nutrition, National level institutes, International and autonomous organizations.

An analytical study was conducted on Twelve institutions/departments (Delhi-8, Haryana-2 and Rajasthan-2) imparting training/education to the personnel of NGOs undertaking research projects related to nutrition and health to examine the themes, target groups and activities for the staff development of personnel of NGOs. The institutes/departments selected were: National Institute of Public Cooperation and Child Development (NIPCCD)(New Delhi), National Institute of Health and Family Welfare (NIHFW); (New Delhi), Food and Nutrition Board Department of Women and Child Development, Ministry of Human Resource Development (New Delhi), Indira Gandhi National Open University (IGNOU)(New Delhi), Asian Centre for Organization, Research and Development (ACORD)(New Delhi), Family Planning Association of India(FPAI), (New Delhi), Parivar Seva Sanstha (PSS),(New Delhi), Population Foundation of India(PFI) (Delhi) SNS Foundation, (Haryana) than Institute of Development Study,(Haryana) Indian Institute of Rural Management, (Jaipur) Centre for Health Education Training and Nutritional Awarness, (Ahmedabad, Head Quarters being in Gujarat, it has activities in Rajasthan as well).

The analysis of the data regarding themes undertaken by the institutes/departments revealed that majority of the institutions are conducting programmes related to health and nutrition which includes maternal and child care, planned parenthood, sexuality and reproductive health including immunization against preventable diseases, health check-ups besides nutritional needs of vulnerable groups; women, children and adolescents, infant feeding; breast-feeding and complementary feeding and HIV/AIDS/STD.A few organisations are covering topics related to de-addiction (alcohol and drugs).

The data regarding target group being addressed indicates that all the institutions selected for the study were conducting courses/programmes for the personnel of NGOs and their trainers as also for faculty of training/educational institutions and professional colleges like home science/social work/medical, besides grass-root/field functionaries, middle/supervisory level up to the management. Courses for policy-makers, staff/field functionaries of various levels of Central/ State governments and women and adolescent girls, students of colleges, police, bank; industry employees and hotel staff are also conducted.

The type of programmes conducted were training/capacity building/orientation, seminars, workshops and refresher courses of varied duration ranging from one day to more than one month. Most of the agencies were active in research/ action research/survey, awareness and advocacy like organising camps, exhibitions, meetings, *bal-melas*, rallies, etc. A few organisations were also engaged in consultation services and preparing/developing training, educational and reference materials for wider dissemination, net-working and documentation and social marketing. Each category of programme organised by the institution/department, have its own objectives. Some of them were to develop adequate understanding of various programmes being run by the government/state governments as well as implementation of these programmes by the NGOs, to improve nutritional and health status of women and children, to impart knowledge and skills among NGO staff for improved performance and bring about necessary attitudinal changes; to motivate them to provide improved health and nutritional services to women and children.

Training methodology adopted during

programmes include lectures, demonstrations, practicals, individual/group assignments, exercises, case studies, presentations by participants, observational field visits, discussions, group discussions, panel discussions and field placement supplemented by slides, films, charts, posters, etc. The selection of the methodology depends upon the target group, topic and time allotted for the sessions. Presently some institutions are giving more emphasis on participatory methodology where trainees are more involved during deliberations of sessions. The duration and sequencing of the topics depends upon the course objectives. In most cases where programmes are organised for longer duration, theoretical input is followed by the practicals and field visits, observational field visits, supervised field practice and field placement.

The organizational structure of training/educational institutions departments depends upon the type, i.e., whether it is run by the State/Central government or by voluntary agencies working at the national/international level. While some of the institutions have positions of Director, Additional Director, Joint Director, Deputy/Assistant Directors and Research Assistants, there are institutions where trainers are designated as Director (training), Group Training Manager (group training specialists), Training Officers and Instructors. There is another category where all the training staff is designated as Faculty.

Selection of the target group for the programmes usually depends upon objectives and type of training programme, type of training institution and funding agency. Some programmes are exclusively organised for the field functionaries/grass-root level workers of a particular area/project/district whereas others are conducted exclusively for the management personnel or for supervisory level. However a number of institutions conduct programmes for heterogeneous groups in terms of designations, qualifications and job responsibilities.

Expenditure incurred on the training largely depends on the training institutions. The cost of the training is borne by either central government, state governments, international agencies or corporate houses, funding agency of NGOs or in some cases by the individual participants themselves. Depending upon the budget, venue, course design including methodology, duration, selection of kit material and speakers are decided.

Regarding evaluation of the programmes, majority of the training institutions do mid-term/post/continuous evaluation either in the written or verbal form to judge the learning level of the trainees as also to invite suggestions for the improvement of the programmes. However, it has also been observed that useful feedback given by the participants is sometimes not applied/incorporated in future programmes due to various reasons and constraints. One of the lacunae in the whole process of training cycle is that a number of training institutions do not carry out any follow up exercise on their programmes to assess and observe the impact of the training.

Suggestions to Improve Personnel Training of NGO's

On the basis of the study some suggestions were made for improving the training activities for NGO personnel. Some of the suggestions are as follows:

(i) In order to enhance knowledge and skills of the personnel of NGOs, focused and need-based training is required. More capacity building skill development courses for the middle level and field functionaries should be organised. Other programmes like Induction, Refresher, Orientation, Workshops, Seminars, Consultation Meets of varied duration may be planned

(ii) The training institutions should plan courses according to the tasks/jobs of the trainees. Programmes for each category of personnel, i.e., separate courses for management level, supervisory level (middle) and for field functionaries should be organised. Although the staff of these agencies is expected to do multifarious tasks, yet selection of the topics should be according to the main task assigned to them. It is suggested that for the management level personnel there should be more focus on project formulation, networking, collaboration and coordination, staff development, monitoring and evaluation, fundraising and negotiation skills, for the middle level functionaries, topics like supervision, monitoring and evaluation of the performance of field functionaries tools to evaluate programmes should be given due importance in addition to latest subject matter information related to health and nutrition.

Survey for selection of target groups and communication should also be given priority. For field functionaries, programme implementation, actual service delivery, advocacy and campaign, community participation, communication, survey for selection of target group and PLA, etc., should be focused. They should also be given latest information regarding health and nutrition as per the services being provided by their employer organisations.

(iii) The training/educational institutions should review existing training, modules and programme contents, critically evaluate to ensure that the contents and methods are relevant to the needs/activities of the NGOs and revise and update them according to the present challenges in the area of health and nutrition. Some of the topics like oral health, stress management and diseases caused due to changing lifestyles (like mental illnesses), cardio-vascular diseases, obesity and anaemia among adolescents and other emerging and endemic, region-specific and seasonal diseases like malaria, dengue, hepatitis, typhoid, diarrhoea. etc., should be given more emphasis. Besides these, impact of nutritive value of conventional food practices, nutrition and health education, substance abuse (drug/alcohal addiction) which directly or indirectly affect the health of children and women should also be included in the course contents. Other topics like project formulation, survey for screening of target groups and their selection, participatory learning appraisal (PLA), advocacy, information, education, communication (IEC) and monitoring and evaluation should also be given more emphasis.

(iv) To enhance various skills and subject matter knowledge/ understanding of the personnel of NGOs for improved performance, training methodology should be improved. Although participatory training methodology is used by some of the training institutions but it is suggested, training methods like practicals, discussions, individual group exercises & assignments, case studies, field visits and observational visits and supervised visits followed by presentations and discussions and jotting down action points and use of audio-visual aids should find more place in the training methodology. Skills of communication, critical thinking and problem solving should be enhanced. The participants should be able to relate training contents with their job responsibilities and target groups.

(v) Training and educational institutions having similar objectives, activities, themes and experiences located in the same region/state should have more coordination and collaboration in terms of technical support, exchange of information, sharing of infrastructural facilities and expertise.

(vi) The training institutions should widen their spectrum of activities in the field of action research, survey and consultancy to NGOs either independently or in collaboration with other institutions. Some topics suggested for survey/research are nutritional problems/public health; like chronic energy deficiency and under nutrition, chronic energy excesses and obesity, micro nutrition deficiency, anaemia, vitamin A/Iodine deficiency diseases, affect on health due to changing food habits, infant feeding, etc.

(vii) In order to streamline training of the personnel of NGOs, it is suggested a comprehensive training infrastructure/network like that of ICDS may be formulated. For this, a nodal department/institution/agency in each region or state and at district level may be selected and strengthened which will further select institutions having capabilities and infrastructure to act as training institutions for the personnel of NGOs of different levels. District man-power cell should be created which will compile data-base on training and programmes/activities, themes, target groups covered by the NGOs in their region and coordinate the whole training.

(viii) It is also suggested that more training institutions having qualified and experienced staff in the area of health, nutrition and allied areas may consider taking up distance education programmes for the personnel of NGOs. To start, they can collaborate with open schools/other institutions and universities and colleges having Distance Education programmes.

(ix) In order to achieve national health and nutritional goals, the NGOs should be careful in selection of the projects/programmes, themes and beneficiaries. They should also appoint qualified and dedicated staff for fieldwork and for supervision. If the personnel with the requisite qualifications are not available then they should be deputed/encouraged to enhance their qualifications.

(x) Further it is suggested that the NGOs should keep a portion of their budget for staff development and ensure that it is used for the purpose for which it has been earmarked. This will include, deputing them for training/refresher programmes,

(Contd on page no.20)

Value Education

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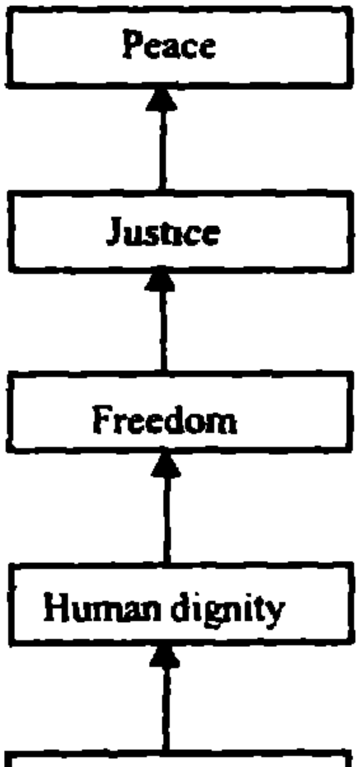
Education is that science or branch of study which deals historically and contemporarily with the principles and practices of teaching and learning. It also increases skill or acquisition of knowledge and understanding as a result of training, study of experience. The central purpose of education is to help individuals make necessary adjustments towards a constant changing environment. Education can be viewed in one sense as the transmission of values and accumulated knowledge of a society.

The cardinal aim of all societies and their government is to ensure the fullest development of the human personality. The right to live is the natural right of human beings but to live with dignity is also equally important. The realization is the outcome of the efforts of several national and international organisations, which have ceaselessly striven to secure all human beings the right to live with dignity on this earth. The *concept of human rights is the worth or dignity of the* individual and only when human rights are ensured as in any civilized society, there can be freedom and justice for all. It would, in turn lead to peace in the world.



"There cannot be sustainable peace without sustainable development. There cannot be development without life-long education. There cannot be development without democracy, without a more equitable sharing of resources, without the elimination of disparities which separate the most advanced countries from the least developed ones", said Federico Mayor, Director General of UNESCO. Therefore, education in the broad sense of the term is the crucial component in the culture of peace, an education which makes each individual sensitive to others, and which imposes a sense of responsibility with regards to rights and liberties. A life-long basic education for all, both formal and informal, must be based on the four pillars of knowledge as stated in the report Learning : The Treasure Within (1996) by the International Commission on Education for the 21st Century chaired by Jacques Delor: "learning to know", "learning to do", "learning to live together" and "learning to be".

As a personal contribution to the promotion of a Culture of Peace and Non-violence, one has to respect all life; reject violence: share with others: listen to understand, preserve the planet; and rediscover solidarity".

In order to intensify the establishment of an integrated educational system on the issues of peace, human rights and democracy, training of teachers in value education becomes essential The success of any education system depends on the quality of the teacher which, in turn, depends on the effective teaching-learning process in a classroom. The programme of Action (POA, 1992) envisages, Teacher performance is the most crucial input in the field of education, whatever policies may be laid down, in the ultimate analysis, these have to be interpreted and implemented by teachers, as much through their personal example as through teaching learning process. The National Policy on Education (NPE, 1986) highlights, the status of the teacher reflects the socio-cultural ethos of a society: It is said that no one can rise above the level of one's teacher.

Teachers must 'glow in' their profession. They should never ' glow out' and become 'burn outs'. Teachers are to awaken the lives of others and work as supermen' for the creation of a sense of human values.

A Programme for the Creation of a Sense of Human Values

What should be done to create a sense of human values in society and to make it a creative factor in human relations? Where do we learn to be sensible about human values? It is true that we must redesign our system of education at all levels to stress the importance of human values in human relations as well as in social development. While schools, colleges and universities are certainly vital instruments for the preservation of spiritual and moral culture, by themselves they cannot bring about a moral and spiritual revolution. In view of the grave moral crisis we are facing as a nation, nothing less than a moral revolution can help us overcome that crisis. "We need a value imparting education which not only gives a shape to one's own personality or character but also imparts a certain amount of real joy to life and work . There are many evils in the form of inefficiency, corruption, favouritism, riots and merciless killing of innocents that are throttling the progress of the nation", said Prof Arun Nigavekar, UGC, Chairman. In the last Century thinkers in India believed that India had something to give to the world. The world, too, at least many of the wise people valued our ancient wisdom as a source of a spiritual and moral regeneration of humankind.

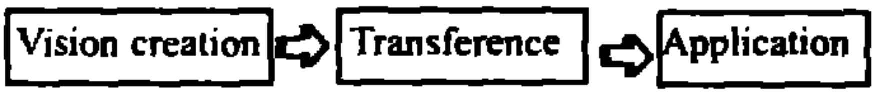
Today we have enough reasons to be ashamed of ourselves when we think of the corruption in our public life and the shallowness and vulgarity in our social behaviour. The only solace is that today we are far more competent in various professions, in medicine, engineering, law, management, etc. than 50 years ago. In science and technology, we have made remarkable progress. Our public life which affects our society in many ways seems to have fallen on evil days and this is leading to a sense of frustration among the people.

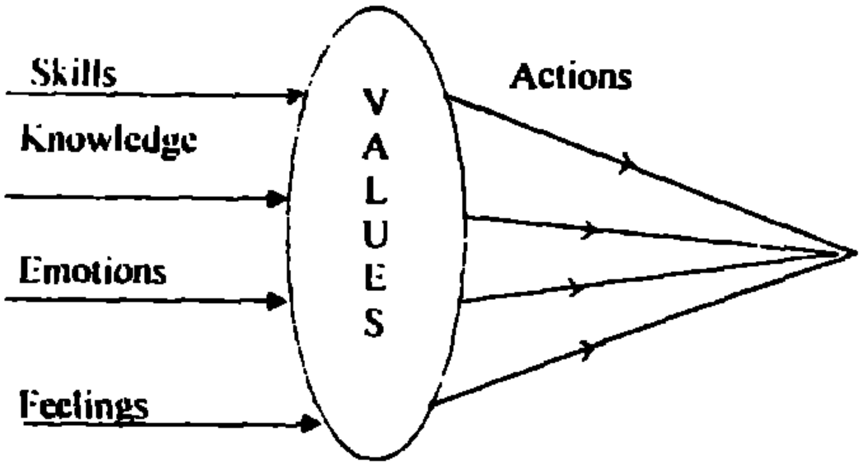
The question remains: how to acquire this sense of values and make it a creative force in our life? The answer lies in the education of our soul and it cannot be acquired in the way we learn mathematics or history. It must come from society which is a silent teacher of all that we value in life. Sometimes we learn from nature, from the silence of the earth and the sky. Sometimes we seem to touch spiritual heights while reflecting on the laughter and tears of a child. A sense of values can be created by our worship of life, by our sense of its sacredness. We cannot learn it from books unless we look upon them as the precious life-blood of a master spirit. To experience the spirit beyond the printed word is possible only when we approach those with a sense of human values who teach us to distinguish between learning and wisdom.

It should be possible to create and sustain a sense of values amongst students capable of responding to all aspects of mental life by presenting them with ideas that shape the inner life of society, ideas which illumine our existence by bringing out its meaning. When a human organization is fraught with human values its breath is the breath of its management, its work having the grandeur of a great ritual which gives joy to all concerned. Human values give human life its poetry. When values pervade an organization, it becomes a work of art.

Human values and practices are concerned with the inner life, with holistic individual effectiveness which however, is also the foundation for team, organizational and societal effectiveness. So far effectiveness has mainly been concerned with 'skills and doing', while Chakraborty (1999) balances this with a focus on 'values and being'

A Value-centred Transformation





Chakraborty's opinion that in our fast - paced world brain storming needs to be balanced by 'brain stilling', i.e., practices that quieten the mind and help us open up to guidance and inspiration from within and above. The Swedish 'The Natural Step' (TNS) deals predominantly with the objective intellectual realm, while human value (HV) deals with the subjective emotional realm. Both are essential for human and societal sustainability. This has been eminently, captured by Swami Vivekananda (1863-1902).

"Religion deals with the truths of the metaphysical world just as chemistry and other natural sciences deal with the truths of the physical world. The book one must read to learn chemistry is the book of nature. The book from which to learn religion is your own mind and heart. Persons have experiences; they grow and learn. Out of experiences may come certain general guides to behavior. These guides tend to give direction to life and may be called values. Our values show what we tend to show, what we tend to do with our limited time and energy.

Since we see values as growing from a person's experiences, it is expected that different experiences would give rise to different values and that any person's values would be modified as the experience accumulate and change. Values may not be static if one's relationships to one's world are not static. As guides to behavior, values evolve and mature as experiences evolve and mature.

Moreover, because values are a part of living, they operate in very complex circumstances and usually involve more than simple extremes of right and wrong, good or bad, true or false. The conditions under which behavior is guided, in which values work, typically involve conflicting demands, a weighing and a balancing, and finally an action that reflects a multitude of forces.

Therefore, one cannot be certain what values, what style of life, would be most suitable for any person. However, some ideas about what processes might be most effective for obtaining values is given below:

Process of Valuing

- *Choosing freely:* Values must be freely selected if they are to be really valued by the individual.
- *Choosing from among alternatives:* When there is more than one alternative from which to choose, a value can result.
- *Choosing after thoughtful consideration of the consequences of each alternative :* There is an important cognitive factor here. A value can emerge only with thoughtful consideration of the range of the alternatives and consequences in a choice.
- *Prizing and cherishing:* When we value something, it has a positive tone. We prize it, cherish it, esteem it, respect it, hold it dear. We are happy with our values. Values that flow choices are glad to make. We prize and cherish the guides to life that we call values.
- *Affirming:* We are willing to publicly affirm our values.
- *Acting upon choices:* Nothing can be a value that does not, infact, give direction to actual living.
- *Repeating:* Values tend to have a persistency, tend to make a pattern in a life.
- *Choosing:*
  i. Freely.
  ii. from alternatives.
  iii. after thoughtful consideration of the consequences of each alternatives.
- *Prizing:*
  iv. cherishing, being happy with the choice
  v. willing to affirm the choice publicly.
- *Acting:*
  vi. doing something with the choice repeatedly, in some pattern of life

Value Indicators

- Goals or purposes
- Aspirations
- Attitudes
- Interests
- Feelings
- Beliefs and convictions
- Activities
- Worries, problems, obstacles

Core Ethical Values	Over Arching Values
Non - maleficence	Beneficence
Do no harm	Promote human welfare
Risk no harm	Prevent harm
	Remove harm

Universal Values

Sanctity of life
Respect for persons
Justice
Freedom
Promise - Keeping
Confidentiality
Property rights

Dignity of life
Honesty
Equality
Reparation
Loyalty
Privacy
Functional welfare
Public welfare

Characteristics of Human Values

- focus on inner sustainability
- conditions for a sustainable mind
- focus on spiritual world (inner world)
- internally is a consistent systems approach with educational material to spread the concept
- coherent with spiritual system
- starts at individual level
- focus on problem preventing rather than problem solving
- concept is stable over time.

Human Values Sustainable	Dis-Values Unsustainable
• Gratitude	* Envy
• Contentment	* Greed
• Cooperation	* Competition
• Forgiveness	* Anger
• Generosity	* Vindictiveness
• Simplicity	* Complexity
• Patience	* Arrogance
• Transparence	* Crookedness
• Charitableness	* Vanity
• Frugality	* Extravagance
• Self- restraint	* Promiscuity
• Interiorization	* Exteriorization

This is possible through the affective domain. "The affective domain includes those objectives which are concerned with changes in interest, attitudes and values and the development of appreciation and adjustment". The taxonomy proposed by Bloom Krathwohl and Masia in 1964 has five major categories as given below·

Affective Domain Taxonomy of Educational Objectives

i. Receiving (attending)
  a. Awareness
  b. Willingness to Receive
  c. Controlled or Selected Attention

ii. Responding
  a. Acquiescence in Responding
  b. Willingness to Respond
  c. Satisfaction in Response

iii. Valuing
  a. Acceptance of a value
  b. Preference for a value
  c. Commitment

iv. Organization
  a. Conceptualization of a value
  b. Organization of a value system

v. Characterization by a value of value complex
  a. Generalized Set
  b. Characterization

Healthy Practices

- Prayer
- Reading of Scriptures (Bible, Quran, Gita)
- Thought for the day
- News Reading related to values such as
  Peace basic to human life
  Self-control mark of culture
  Significance of the Vedic Chanting
- Paper Clippings on Value Education such as
  Lessons from the Ramayana
  Three qualities of human beings

Conclusion

As said by Rajput. J S towards good citizenship, "Values cannot be forced, even if conveyed with good intentions. No real integration or internalisation of a value can be achieved unless the learner agrees with it. Communication is the key in this. This is one tradition we lack in India, but it can be developed with the cooperation of all. In value education, more than in the academics, educators will never be able to impose their values. Rather, they must circulate in the community of the learner and pass on, through discipline, the fine humanism of respecting others in the same manner that one expects to be respected in return As this climate of respect surrounds the learners, they automatically imbibe an attitude of tolerance towards their fellow men".

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On Launching the Indian Innovation Movement

R A MASHELKAR, FRS, Director General, Council of Scientific and Industrial Research, New Delhi delivered the Convocation Address at the 10th Convocation Ceremony of Yashwantrao Chavan Maharashtra Open University, on March 10, 2004 at Yashwantrao Chavan Maharashtra Open University, Nashik. He said, "What do global giants like General Electric and Motorola have in common with a humble tiffin delivery network comprising 3500 dabbawallas, who deliver 1.5 lakh lunch boxes to citizens in Mumbai each day? The dabbawallas have the six sigma rating or an efficiency rating of 99.999999, which means one error in one million transactions! This rating has been given to them by Forbes Global, the famous American business weekly. But we did not recognise them. Look at the innovation that these largely illiterate dabbawallas have done. Their secret lies in a coding system devised over the years. Each dabba is marked in an indelible ink with an alphanumeric code of about 10 characters. In terms of price and the reliability of delivery, say compared to a Federal Express System, dabbawallas remain unbeatable. Their business models have become a classroom study in some management institutes. By giving *this one example, all that I am trying to convey is that the innovative potential of the people does not plummet to zero, when the people are illiterate or semi-literate. They necessarily have to innovate to survive and to succeed*". Excerpts.

There are extra-ordinary opportunities for those, who are prepared to face the challenge of change. Indeed, only those of us will survive and succeed, who will be able to anticipate the change and also exploit the change. And those who do this will one-day lead the change. We in India should have the ambition of leading the change and make things happen on our own terms. It is all of you, who will build the new India of our dreams in the 21st Century. This new India of our dreams should be an innovative India.

Everyone recognizes that Twenty First Century is the 'Century of Knowledge'. Nations, which have developed mastery in the production of knowledge, its dissemination, its conversion into wealth and social good and its protection have assumed a leadership position in the world today. But it must be recognized that knowledge without innovation is of no value. It is through the process of innovation alone that new knowledge can be created. It is innovation, which converts knowledge into wealth and social good.

India was a leader in innovation several centuries ago. Indeed, since the Indus Valley Civilisation of about 5000 years ago, innovation has been the part of the Indian culture and the basis of its civilization. Our innovations were diverse and pioneering. They included remarkable town planning, the use of standardized burnt bricks for dwelling houses and interlinked drainage systems. They included wheel-turned ceramics and solid-wheeled carts. The dockyard at Lothal is regarded as the largest maritime structure ever built by a bronze-age community. The discovery of zero and the decimal-place value system by Indians dates back to the Vedic Period. Our pioneering work in algebra, trigonometry and geometry was truly outstanding. Indian innovations in medicine, especially in Ayurveda, not only aimed at the cure of diseases but more importantly, on the preservation of health. The innovations in surgery included pioneering efforts in laprotomy, lithotomy and plastic surgery. The iron pillar at Delhi, which testifies to the achievements in metallurgy some 1500 years ago, is truly inspirational even today. Indian civilization was characterized by scientific thought, capabilities and techniques, at levels far more advanced than others.

In spite of this great heritage and record of accomplishments, why did India fall behind in the ensuing centuries? When the scientific and industrial revolutions took place in the west a few hundred years ago, there was a period of stagnation in India. Lack of development over this period was a result of a hierarchical approach, irrational subjective thinking, and build up of superstitions and superficial ritualism. The earlier great traditions were allowed to decay. A highly feudalistic structure of society developed. It was in this state of its society that India came under the colonial domination. During early part of the twentieth century, some development in science did happen because of the efforts of some outstanding Indians, who worked over three quarters of the century prior to Indian independence. They include names such as Sir CV Raman, S Ramanujan, P C Ray, J C Bose, S N Bose and so on, a spectacular array of thinkers.

These were the products of the ferment in the Indian society, which had motivated the freedom struggle. But by and large, compared to other nations, inhibition and imitation in the society was evident during a substantial part of the twentieth century. We lost the leadership position. This cannot continue into the twenty first century. We must regain this position with determined action.

We have now an opportunity to start the resurgence of an innovative India today. What do we need to do? We need to build new social, legal and economic structures that will support innovation. We need to make the symbol of T in 'India' to stand for 'Innovation'. I am convinced that just as we had launched a freedom movement, which freed us from the stronghold of foreign powers, we must launch an 'Indian Innovation Movement' now, so that India can assume its rightful place in the comity of nations. And the time to do it is now, at the dawn of the new millennium.

Our confidence in building the new innovative India of our dreams stems from our major successes in the arena of many technological innovations, which have made such a difference to the nation. Some prominent examples include the blue (space), green (agriculture), white (milk) and grey (software) revolutions. Let us just take one example. The Indian space program, for example, has designed and sent into space a series- of satellites that, among other things, comprise the largest domestic communication system in the Asia-Pacific Region. It has also developed a range of launch vehicles, the most recent being a geo-synchronous launch vehicle with an 1800 kg payload. These developments have helped in the application of space technology for national needs in communication, meteorology, broadcasting, and remote sensing. All of this has been achieved in a relatively cost-effective manner - the Indian space program's current annual budget is equivalent to US $450 million while NASA's budget, in comparison, is over $15 billion.

The landscape of technology innovation in India is not static. It is continuously evolving. It has undergone a number of positive developments over the past decade. Let us reflect on some of these. There has been a paradigm shift that is reflected in a move from research as an end in itself to research coupled with technology development, with this linkage being increasingly driven by socio-economic needs. The perspective has also shifted from primarily a local or national focus to a global one, with the globalization of R&D being a major driving force. This has resulted in some major transitions: for example, the pharmaceutical sector that was based on formulations of imported drugs in the 1960s has slowly enhanced its innovative capabilities and is now gearing up to compete with the global players. Realising the power of Indian intellect, we have seen more than 100 top companies from abroad set up their R&D centers here in India.

What are India's major strengths in technological innovation? On the human resource front, India has the largest pool of qualified engineers in the world, the 7th largest pool of R&D personnel, and a large cadre of expatriate scientists, technologists, and entrepreneurs, who are increasingly engaged with their home country. On the institutional front, India's assets include numerous institutions of higher learning as well as an impressive array of research centers and laboratories that focus on a large range of scientific and technical problems. There are exceptional leaders within the government, academia, and the business domain who are promoting and catalyzing institutional transformation (both revolutionary and evolutionary) in a range of ways. There are increasing numbers of individuals, both within the country as well as outside it, who serve as role models for technology entrepreneurship. India has a huge domestic market, with potential customers numbering a few hundred millions. We have an economy that has grown at almost six per cent per year over the last decade, not many countries have done so. This year we will record eight per cent growth. It is possible that in the coming ten years, our growth rate may even reach or exceed 10%.

What is the new direction that the Indian technological innovation needs? Our technology innovations must be now redirected for solving the major problems that the nation faces today. Let me illustrate this by taking only one issue. We have about 200 million adults that cannot read and write. Our illiteracy is reducing only at the rate of 1.5% per annum. We have constraints of trained teachers. The use of conventional methods of learning is from alphabets to words, which requires 200 hours of instruction. If these conventional methods are used, then we will need 20 years to attain a literacy level of 95%. This is too long. We, therefore, must find out new innovative ways of solving the problem.

Look at what the great doyen of Indian IT industry, EC Kohli has done. He has developed a Computer-based Functional Literacy (CBFL) method. It focuses on the reading ability. It is based on the theories of cognition, language and communication.

In this method, the scripted graphic patterns, icons and images are recognized through a combination of auditory and visual experiences by using computers. The method emphasizes learning of words rather than alphabets. While the method focuses on reading, it acts as a trigger for people to learn to write on their own.

Based on this method, Kohli's team has developed innovative methodologies using IT and computers to build reading capability. This experiment was first conducted in Medak village near Hyderabad. Without a trained teacher, the women started reading the newspaper in Telugu in 8 to 10 weeks. Thereafter, Kohli's team has carried out more experiments at several centers. Over 20,000 adult participants have become literate now.

We can ask a simple question. If all this is computer based, then is it not too expensive for a country like India? Kohli has an innovative solution to that too. His team has developed these lessons to run on Intel 486s and earlier versions of Pentium PCs modified to display multimedia.

There are around 200 million of such PCs in the world that are obsolete. They have been discarded. By using these PCs, the cost of making one person literate would be less than Rs. 100. With CBFL, Kohli says he can increase the literacy to 90 to 95% within 3 to 5 years, instead of 20 years. It is this kind of innovation and innovative approach to problem solving that can transform India.

Innovative India of the future must be compassionate. It should continuously look at the problems of the poor. Let me focus on one such problem. Millions of women draw water from wells. They feel fatigued and sometimes they need to rest to catch their breath. But all this time, they had to keep holding the rope with a water-filled bucket or vessel tied to it. Even if they momentarily lost their grip, the bucket fell back into the well. All their effort went waste. Although communities have devised ways of retrieving a fallen bucket out of well, for example, by using hooks tied to another rope, this did not prevent the bucket falling into the well. This was the situation until an illiterate artisan came on the scene. When posed with this challenge, he solved this problem by attaching a small lever on the pulley. The lever did not get in the way while pulling on the rope, but the moment the tension on the rope slackened, the lever pressed against it and arrested the downward movement. This kept the water-filled bucket in its position. Now an old lady could take rest, chat and then resume the pulling operation. Thousands of such pulleys are now being installed all across the Gujarat villages. These designs will spread to the rest of India soon. Can you imagine the relief this will bring to millions of poor women, who draw water from wells in India everyday.

The question we should ask ourselves is why is it that the design of a pulley to draw water from the well remained unchanged for two thousands years. Indeed, a more general question is this. Why do such problems that affect millions of people every day not get solved through the use of existing scientific models? In the example of this pulley, we should remember that navigators had used a similar concept while pulling the ropes in setting oars in the boats. Further, a chain pulley system in the construction industry also was using similar concepts. Thus, the concept was not new. But its application in a real life problem did not happen. New innovative India of our dreams must carry that compassion so that the problems of the poor can be solved. We must harness the talent of the scientists so that value can be added to the local, indigenous ability

For all this to happen, we must create a new value system, where problem solving for the poor and the disadvantaged becomes a national mission. Those who contribute to this mission must be made into the national heroes. That is why an illiterate artisan, who developed this pulley system was acknowledged and rewarded by the National Innovation Foundation that was set up under my Chairmanship last year. We need more such innovations, which will solve the problems of the poor

How can we change our mindset and value systems? Technologies developed by local artisans, craftsmen, potters, farmers, weavers, etc are considered as traditional These technologies are never included in the fabric of modern technology. How can we bring about this change? I tried an experiment in Pune during the Indian Science Congress in January 2000. As President of the Science Congress, I said let this Science Congress be 'knowledge congress'. Let it be 'people's congress'. We will show that we value people's knowledge. We had several grass root innovators participate in our science exhibition. They demonstrated their technologies. None of them spoke English. We had a session; where they made a presentation on their technologies in local languages to around 2000 scientists. They stood on the same platform from which the Nobel Laureates spoke. I must say that they got a bigger applause than even the Nobel Laureates. I believe the scientists, for the first time, realised the power of innovation that takes place in the field. They also saw the innovative and creative abilities of those, who were unadulterated by the modern day educational system. This realization must now turn to a respectfand then to meaningful partnership.

National Innovation Foundation (NTF) is helping to build such respect and partnership. NIF recognizes the innovations by grass root innovators, be they farmers, slum dwellers, artisans, school dropouts and so on. NIF set up a national innovation competition two years ago. To begin with, in the first year, there were less than one thousand entries, which increased to sixteen thousand in the second year! Our

President Dr. A.P.J. Abdul Kalam gave away the prizes for the winners. Many of them were illiterate or semi-literates. The winners during the last year included an eighth standard dropout, who developed a complex robot. The winners included a farmer, who developed a cardamom variety, which today has over 80% share of the market in Kerala. The winners included again an illiterate individual, who had developed a disease resistant pigeon pea variety, which became a big winner. These disadvantaged individuals had shown to us as to what they can do by working in laboratories of life by using their powers of observation, analysis and synthesis. It is time that we sing a song for these heroes and salute this part of India, which is as vast as it is innovative. Others recognize them but we do not. Let me give an example.

What do global giants like General Electric and Motorola have in common with a humble tiffin delivery network comprising 3500 dabbawallas, who deliver 1.5 lakh lunch boxes to citizens in Mumbai each day? The dabbawallas have the six sigma rating or an efficiency rating of 99.999999, which means one error in one million transactions! This rating has been given to them by Forbes Global, the famous American business weekly. But we did not recognise them. Look at the innovation that these largely illiterate dabbawallas have done. Their secret lies in a coding system devised over the years. Each dabba is marked in an indelible ink with an alphanumeric code of about 10 characters. In terms of price and the reliability of delivery, say compared to a Federal Express System, dabbawallas remain unbeatable. Their business models have become a classroom study in some management institutes. By giving this one example, all that I am trying to convey is that the innovative potential of the people does not plummet to zero, when the people are illiterate or semi-literate. They necessarily have to innovate to survive and to suceeed.

Our new innovative India will have to be built by concentrating on our youth, which represents the national strength, vitality and vigour. If properly moulded, the youth can become the champion of our culture, custodian of our national pride and a trustee of the freedom of the country. But the process of such moulding requires the right type of education right from childhood. Our youth must imbibe the spirit of a true innovator. Innovators are those who do not know that it cannot be done. Innovators are also those who see what everyone else sees, but think of what no one else thinks. Innovators refuse status quo, they convert inspirations into solutions and ideas into products. Building such innovators will require an all-pervasive attitudinal change towards life and work - a shift from a culture of drift to a culture of dynamism, from a culture of idle prattle to a culture of thought and work, from diffidence to confidence, from despair to hope. Revival of Indian creativity and the innovative spirit needs to be made into a national movement today.

How can we induce creative thinking amongst our young people? The young budding inventors can learn a lot from the legendary career of an inventor like Thomas Alva Edison. As we know, Edison was granted a record of 1,093 patents for inventions ranging from light bulb, typewriter and electric pen to his phonograph and motion-picture camera. His work methods reveal that the real keys to unlocking creativity are an open-minded approach to learning and perseverance. Edison used his creativity not only for developing new inventions but also for bringing them to the market and winning out financially over competitors.

When Edison died in 1931, he left 3500 notebooks which read like a turbulent brainstorm. It shows Edison's mind at work spanning most of his six-decade career. They offer fresh clues as to how Edison, who received virtually no formal education, could achieve such an astounding unrivalled record of inventiveness. The notebooks illustrate how Edison conceived his ideas from their earliest inceptions and show in great detail how he developed and implemented them.

How do ideas get generated? Curiosity provides the stimulus for the production of ideas. Curiosity prompts us to ask questions and explore further. As Einstein said " He who cannot wonder, cannot feel curious about things around him, is as good as dead, a snuffed-out candle". Edison was curious and therefore he could generate new ideas.

Edison felt that his lack of formal education was, in fact, a 'blessing'. This enabled him to approach his work with far fewer assumptions than his more educated competitors, who included many theoretical scientists, renowned doctorates and engineers. He approached any idea or experience with wild enthusiasm and was prepared to try anything out of ordinary material.

When an experiment failed, Edison would always ask what the failure revealed and would enthusiastically record what he had learnt. He had an enormous talent for appropriating ideas that may have failed in one instance and using them for something else. Whenever he succeeded with a new idea, he would review his notebooks to rethink ideas and inventions abandoned in the past in light of what was recently learnt. He would often jot down ideas others had come up with in other fields.

The lessons that we learn from Edison's life are simple. First, challenge the assumptions continuously. Do not have a preset or prejudiced mind. Let the windows of your mind be always open. Second, patience and perseverance pays. Third, nothing is final. Strive for creating products that are better than the best. And displace your products yourself. Finally, you can learn more from your failures than you can from your successes. So do not be afraid to fail. Take risks. Indeed, risk taking must become a part of the national innovation policy.

I would like to end by emphasizing that the future of India can be built by remembering and practicing three things, which are encapsulated in the word "IT. Firstly, TI stands for 'Think India'. We must have India in our hearts and minds. As someone had said, India's response to WTO should be WTI, that is, 'We Think for India'. The second meaning of TI is 'Team India'. We all must work as a team, breathe as a team and strive forward as a team. TI also stands for 'Total Innovation'. This means making India truly innovative by changing its social, legal and economic structures. The most important pledge we should take today is that, we should make the national symbol in I in 'India' stand for 'Innovation'. If we 'Think India', work with the spirit of 'Team India' and push forward the movement on 'Total Innovation', then I am confident that India will find its rightful place in the comity of nations, which is right at the top. ❑

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exchange visits with other NGOs, observational visits to other institutions/places, field exposure. Facilities to upgrade their qualification should be provided apart from making available books, reading material as well as time. In order to be in touch with the field and to get feedback on training imparted, the staff of the training/educational institutions should remain in touch with their trainees. The follow up of the training programmes should be an integral part of their activities.

(xi) The staff of NGOs should remain in touch with other NGOs, agencies, training institutions, home science colleges, schools of social work and medical colleges, nutritional departments, agricultural universities and management institutions existing in their area for exchange of latest information. Further, it is suggested that they should have linkages with the field units of food and nutrition Board for imparting nutrition education to the community.

(xii) It is also suggested that home science colleges, medical colleges and schools of social work should undertake more longitudinal research studies, surveys and participatory researches related to emerging health and nutritional problems with the help of NGOs as also to study impact of already existing development and welfare programmes. They should also suggest pertinent issues/themes and activities to be undertaken in future by the NGOs and training institutions.

It may be concluded that there is no proper mechanism for obtaining and analyzing information regarding training provided by training institutions to personnel of NGOs engaged in the delivery of services related to nutrition and health. Therefore, there is an urgent need to formulate a policy on training of manpower of NGOs. Central Ministries/State governments, medical colleges, home science colleges, schools of social work, state departments dealing with agriculture, training institutions, institutions involved in distance education, Community-Based Organizations (CBOs) and funding agencies should be involved in formulating the policy. ❑

Dibrugarh University Convocation

The ninth Convocation of the Dibrugarh University was held recently. Prof. V.S. Rao, Director of the National Assessment & Accreditation Council (NAAC) Bangalore was the Chief Guest of the occasion. "The short term market oriented focus of educational programmes, the lop-sided emphasis on offering only job-oriented programmes by educational institutions is a result of narrow view of the purpose and goals of education," observed Prof. Rao in his Convocation Address. Calling for a broader view of education, he said. "when one looks to the quality life through quality education, the need is that of a broader view of the whole gamut of academics." However, he added that education, as a means to a livelihood also calls for living as a responsible citizen in a civilized environment.

Prof. Rao said that higher education has to take cognitive measures to secure competencies, resolving problems, the ability to think critically, to formulate questions and the *ability to search for relevant* information within the vast data pile-up that one can access, through the Internet. He said the students of higher education have to develop multiple competencies at the *fundamental level* and mega competencies at the doctoral level. He said the Centre is taking several steps to enable the country to have a pool of mega competent human resource, and spoke about the Task Force set up to realise this goal. "While general education has to be made compulsory up to the high school level, the additional thrust of the Task Force would be towards realising the long term socio-economic aims of the country," he said.

Praising the country's Northeast as a region of high prospects in the human development index, Prof. Rao said that the students of the region would have to see to it that the Northeast's unique art, literature and culture contributes significantly to the national human development index. He called on the students of the region to fully comprehend the necessity of an integrated vision of education, at all the stages, from the primary to higher levels.

Prof. Rao advised the students to be enamoured with generic skills, saying that in the fast changing socio-economic context, acquiring specialised knowledge in a particular area will no longer do, as generic specialisations are more useful to face the challenges of modern day requirements.

Giving an outlook of the activities of NAAC, he said, "one need not be over-awed by the body, as "our intention is not to carry out sting operations, but to help institutions of higher education to develop as centres of competence." He said that it is no longer sufficient for a young student to be a BA or MA alone. The additional competencies of the present day youth will help the country to have the much needed resource pool to take the country head in various activities in the international arena. "All the same, it is also required that one has to preserve one's cultural mores while in the pursuit of excellence," he stressed. He quoted Nobel laureate Prof. Amartya Sen, who said that *importance of developing human capabilities has* to come through education for development, and that in the scheme of development, quality education has an important role in a better quality of life.

Students of the university listened to Prof. Rao in rapt attention, as he concluded by saying that having one's educational credentials at university convocations is one cultural practise that has to be preserved. "The quest begins thereafter," he said

Mahatma Gandhi Memorial Lecture

A Mahatma Gandhi Memorial Lecture on 'Exit for Orientalism: Indigenous Path to Liberation in period of Globalization' was organized recently by the Banaras Hindu University, Varanasi. The Director of Research Foundation of Science, Technology, Ecology, New Delhi and a well known activist Ecologist, Professor Vandana Shiva delivered the lecture. She said that the women generate, sustain and regenerate life. Global patriarchal institutions are unleashing death and destruction by trying to own life and commodify it. She emphasized that issues are old but instruments are new.

She said that corporate globalization has created a new institution, the World Trade Organisation (WTO) which with the World Bank /IMF imposed coercive rules, laws and policies on third world societies. Citing the attempt made by these bodies for privatization of knowledge and bio-piracy, she said that the new intellectual property rights followed by the TRIPS agreement of WTO has enabled powerful corporations and countries to claim patent on life, sheep, cows, cells, genes, seeds, and plants. In this connection, she described how patent on *Neem* and *Basmati* rice made a movement to get it rescinded.

She informed that an organisation called *'Navdanya'*, the movement to keep seeds in women's hands and knowledge as community resources was founded to resist patent and seed monopolies. She further informed how they are preparing to challenge a patent granted to ConAgra for the method for producing *Atta* (Flour). She said that the corporation take over food and agriculture. Giving another example of exploitation policy she informed that food grain stock has shot up to 63 Million Tons which had been a result of declining consumption by the poor because of reduction in the subsidy. The trading giants like Pepsi and Cargill have benefited from that withdrawal of food subsidy to the poor and subsidy for export.

Dr. Vandana Shiva lamented that Green Revolution and Public Sector is being replaced by genetic engineering, giant seed and grain corporation and centralized control by the Food Corporation of India is being replaced by even more centralized control in the hands of Monsanto, Cargill, ConAgra. She said that to solve the problem, the partnership between women and biodiversity should be encouraged which had fed world throughout the past and will feed for ever in future. She said that water is another issue on which the women of Maharastra and of Kerala have gone to jail resisting Coca colas theft of their water resources, whereas privatization of Ganga Water collected in Tehri dam will be marketed by Suez multi national to the consumers. Therefore she thundered the slogan of the movement against globalization that *'Our world is not for sale'*. The memorial lecture was presided over by the Vice Chancellor, Prof. P. Ramachandra Rao. Prof D.A. Gangadhar of the Department of Philosophy and Religion delivered the welcome address..

RAU Convocation

Rajendra Agricultural University, Pusa (Samastipur) organised its fourth Convocation recently. Bharat Ratna Dr APJ Abdul Kalam, Hon'ble President of India was the Chief Guest and Hon'ble Governor of Bihar and Chancellor of the University, Justice M Rama Jois presided over the function. Hon'ble Minister of Minority Welfare and Energy, Government of Bihar, Sri Sakeel Ahmad was also present on the occasion. The Vice Chancellor, Dr. S. R Singh in his welcome address narrated the role which the Rajendra Agricultural University played in boosting up agricultural production in the State by developing certain techniques as well as uplifting the farming community of the State. Hon'ble President of India in his Convocation Address lauded the contribution made by various agricultural missions in particular and the State in general.

In the convocation the Degrees/Certificates were conferred to the students of various disciplines of undergraduate and postgraduate programmes who passed out between June, 2001 to June, 2003. Gold Medals were conferred to the brilliant students of Masters' and PhD programmes for their excellent record and best performance both in the class room and in the field. The Gold medals were conferred to the students by Hon'ble Governor of Bihar and Chancellor of the University, Justice M Rama Jois.

National Seminar on Gender and Human Rights

The School of Social Sciences, SRTM University, Nanded organised a two-day National Seminar on 'Gender and Human Rights' recently. The Seminar covered five sub-themes namely

- Women and Human Rights: The Historical Prologue and Legal Terrain
- The Growing Violence against Women: Issues and Strategies
- Reproductive Rights as Human Rights
- Dalit, Tribal and Minority Women and their Human Rights
- Women in Prostitution. Sexual Minorities and their Human Rights

It was inaugurated by Dr Kalpana Kannabiran Feminist Sociologist from Hyderabad and was presided over by the Vice Chancellor Dr S A Suryawanshi. In her inaugural speech, Dr Kannabiran held that the only space that recognizes women as equal citizen is the Indian Constitution. She analysed the ways in which the constitutional mandates have succeeded, failed and faltered with reference to the rights of women in post-independent and post-liberalised India. The specific focus of her speech was on violence --- sex-based and caste-based The gendered violence is not only entrenched in the social practices but they are also inscribed over the body of women. The law as an instrument both of emancipation and subjugation were discussed from women's and particularly from the Dalit women's perspective. Various panelists included Dr Flavia Agnes, Dr Lakshmi Lingam, Dr Vibhuti Patel, Vishakha Dutta, Meena Seshu, Alok Gupta, Prachi Patwardhan, Renuka Mukadam, Dr Bandana Sonalkar, Dr Mira Sadgopal, Haseena Khan and others.

The concluding session was chaired by Dr Vibhutu Patel. In her address she focussed upon the women's movement in India and its efforts to mainstream women's issues and towards law reforms to create a gender-just social order. The Seminar contained some unconventional themes which are generally kept aside even by the women's movement. The rights of the sexual minorities was given major emphasis in the Seminar. Twenty two invited delegates from different parts of India presented papers. The programme was co-ordinated by Prof B C Barik, Convenor and Mr Pushpesh Kumar as Co-convenor.

National Defence College Delegation visit to CCSHAU

A 14-member multinational defence personnel team from National Defence College visited CCS Haryana Agricultural University recently. The team was on a two-day economic study tour of Haryana. Led by Senior Directing Staff, Maj. Gen. Ashok Vasudeva, the members of the team include senior defence officers from India, USA, Bangladesh and Nepal and an IPS officer. The delegation was presented a historical perspective of agriculture development in Haryana as well as the impact the agriculture had made on the economy of the State at a meeting with deans and directors of the University. While chairing the meeting, Mr. M.K. Miglani, Vice Chancellor highlighted the present situation of foodgrain production of the state and the contributions of Haryana Agricultural University in agriculture and rural development of the state. He said that the varsity had not limited itself to teaching and research only but also did its best in the transfer of improved technologies at the grassroot level.

Mr. Miglani said that the State was endowed with varied agro-climatic conditions and geographic locations. But the varsity by setting up regional research stations and Krishi Vigyan Kendras to conduct location specific research proved equal to the occasion. He said that the varsity was working with a sole target of making Haryana farmer happy and prosperous. He said that the foodgrain production situation of the state was such that its storehouses were full of wheat, rice, sugar, ghee and dry milk. It was also contributing food-grains to the central pool. Varsity Director of Research, Dr. B.S. Dahiya apprised the defence personnel team of the developments of agriculture in Haryana as well as the problems being faced by the agriculture sector, while Economics Department Head, Dr. K.N. Rai delivered lecture on the impact of agriculture on economy of the State.

Evincing keen interest, the members of the delegation sought information about the work being done in areas of seed production, genetic engineering, water conservation, organic farming and protection of environment from agro-chemicals like insecticides and pesticides. They visited veterinary clinics, laboratories and university exhibition, while their tomorrow's schedule includes visit to research farm of the university. Earlier, the delegation also called on the Haryana Chief Minister, Shri Om Parkash Chautala.

National Research Paper Contest

A National Research Paper Contest 'Jigyasa 2004' was organized recently by the Prestige Institute of Management and Research (PIMR) recently. The panel of judges was constituted of Dr. P.K. Gupta, Professor, Institute of Management Studies, DAVV, Indore as Chairperson; and Dr. Rajnish Jain, Faculty, Institute of Management Studies, DAVV, Indore and Dr. Ashutosh Verma Faculty, Prestige Institute of Management and Research, Indore as members. Dr. Upinder Dhar, Director, Prestige Institute of Management and Research, Indore in his welcome address emphasized upon the need of research in different areas of management. Dr. Mala Srivastava briefed the students about Jigyasa. The Contest saw the participation of 22 teams representing 14 Institutions across the country.

In the first phase, students were instructed to send a brief synopsis of the research paper in the area of their choice. Two papers from each functional area of management (HR, Finance, Marketing and General Management) were short listed for final presentation by a panel of judges constituted of Dr. Santosh Dhar as Chairperson and Dr. Yogeshwari Phatak, Reader, PIMR and Dr. Mala Srivastava, Reader, PIMR as members. Authors of eight short listed papers were invited for presentation of the paper. The presentation was evaluated on different parameters like clarity of rationale & objectives, methodology, relevance of findings, implications of the study, presentation style and overall view of the judges. The paper entitled "Synergy in Management - Spirituality and Materialism" authored by Shri D. Chaitanya and Shri V. Vaideeswaran of Pondicherry University was adjudged as the best paper. The winning team received a cash prize of Rs.5000/-. The cash prize was given, by Dr. P. K. Gupta, Chairperson of the panel of judges. Prof. Sapna Parashar proposed the vote of thanks. The programme was coordinated and conducted by Prof. Tania Das.

The Eleventh Foundation Day of the Institute was also celebrated recently by organizing a special guest lecture. Dr. Upinder Dhar while delivering the welcome address gave a background of the foundation day and said that the significance of conducting such lectures is to bridge the gap between the academia and the industry so as to give an insight to the budding managers into their corporate future. The speaker for the occasion was Mr. Subhash Jagota, CEO, Global Business Solutions, New Delhi. Speaking on the topic Dynamics of Success, Mr. Jagota emphasized on different facets of developing the personality of an individual to make him competent in the dynamic business scenario. He said that by developing a positive attitude and appropriate skills of networking, relationship management and facing interviews one can grow consistently in the corporate world. The deliberation was followed by an interaction session wherein the students clarified their doubts pertaining to the concepts of success. A vote of thanks was proposed by Dr. Anant Gwal. The programme was coordinated and conducted by Prof. Anshu Arora.

NTPC — IIT Mumbai Tie-up

The National Thermal Power Corporation (NTPC) and the Indian Institute of Technology (IIT), Mumbai have reportedly entered into an agreement to promote research and development in several areas, including power distribution and renewable technology. According to the agreement NTPC and the IIT (Mumbai) will collaborate in areas such as generation, renewable technology and environmental issues, computational fluid dynamics and technology development for cost reduction.

A memorandum of understanding was signed by Prof. Ashok Mishra, Director of IIT (Mumbai) and K.K. Sinha Director, (NTPC), in the presence of Shri. C.P. Jain, Chairman, NTPC and some senior officials of NTPC and IIT. Under the agreement, joint research will be carried out for introducing new technologies for optimum utilization of resources, renewable energy option and environmental issues.

National Seminar and Industry Institute Interface

The Indian Institute of Tourism and Travel Management, Gwalior - An organization of Ministry of Tourism and Culture, Govt. of India organized a two-day National Seminar on 'Emerging Trends in Tourism' recently at Gwalior. The event also included the Industry Institute Interface Programme - an effort of the recently formed Industry Institute Partnership Cell, an initiative of IITTM in collaboration with AICTE. Around 50 participants from all over the country participated in the Seminar and an interaction took place between academicians and experts from the industry during the interface programme.

Shri P S Bisen, Director,MITS, Gwalior was the Chief Guest of the inaugural ceremony. Chairman of the ceremony was Mr Prem Subramanyam, Chairman - Tourism Infrastructure, Infrastructure Development Corporation of India. Shri D. Singhai, IAS, Director-IITTM has presided over the ceremony and Prof S. Kulshreshtha, Course Director was the Seminar. Coordinator. The inaugural ceremony was followed by presentations by Prof OP Kandari Pro Vice Chancellor, Bundelkhand University; Prof S.C.Bagri, Director, Center for Mountain Tourism and Hospitality Studies, HNB Garhwal Univeristy, Srinagar and Dr. S.P. Bansal, Chairman, Department of Tourism, HP University, Shimla. . The themes for technical sessions were 'New Age Tourism', 'Emerging Trends and New Thrust Areas of Indian Tourism' and 'Marketing Strategies for Tourism Promotion' respectively. The valedictory address was delivered by the Director, IITTM Mr D. Singhai and vote of thanks was proposed by Prof S. Kulshreshtha, Coordinator of the Seminar.

Diploma in Embedded Systems Design

Centre for Development of Advanced Computing, (C-DAC), is a scientific society of the Ministry of Information Technology, Government of India, founded in 1988 with a mission to deliver the state-of-the-art open architecture Parallel Supercomputers, in the teraflops range, for scientific, engineering and business applications. In fulfillment of this goal, C-DAC advented the 'Open Frame Architecture' for flexible supercomputing, which has been realized in its celebrated "PARAM" series of supercomputers.

Through its GIST technology, it has rendered all the Indian languages on personal computers.

A major spin-off of this Grand Challenge Expedition is the high quality Intellectual Resource Base that has emerged at C-DAC in the form of an expert team and its specialized knowledge of various facets of Advanced Computing. With its precious resource base at its command, C-DAC established the Advanced Computing Training Schools(ACTS) to meet the training needs of the existing and prospective users and students to nation building. Through its ACTS Centres hundreds of students and professional are being trained in higher value skills in frontline tools and methodologies in information technology. One such Acts ACTS center is located at Hyderabad under the Headship of Dr. N Sarath Chandra Babu. The center conducts various certificate and diploma courses round the year. A five-months full-time comprehensive diploma course on Embedded Systems Design is a regular feature. The course is divided into six modules and an industry relevant project with equal emphasis on hardware and software. The eligibility condition for applying for the diploma course is that the candidates should possess Engineering Degree in Electronics/ Electrical/ Electronics and communication/ Electronics &Instrumentation/ Computer science and Engineering/ Computer Engineering/M.Sc (Electronics). Students who have appeared for final examinations of the above courses can also apply. Experienced electronics designers, developers, System Integrators (with at least two years of experience) from Electronic Industry and R&D organizations with degree/diploma in Electronics are also eligible for the course. All applicants should possess sound knowledge in Digital Design, Microprocessors, C programming and Operating System concepts. For further details contact Dr. N Sarath Chandra Babu, Centre Head, Centre for Development of Advanced Computing, C-DAC, II Floor, Delta Chambers Ameerpet , Hyderabad 500016.Email: desd@cdach.ernet.in. Phone : +91-040-23401331, 23401332, Fax : +91-040-23401531 or webwiste www.cdacindia.com

MoU between Osmania University and DSIR

A Memorandum of understanding was signed between Osmania University and Department of Scientific and Industrial Research (DSIR), Government of India at Osmania University Campus, Hyderabad recently. As a part of the MoU, (DSIR) will help Department of Business Management (DBM) Osmania University in consolidating MBA(Technology Management) programme by supplementing the academic inputs, sharing case studies, developing new academic initiatives in the areas of Technology Education, training, and research, organizing short duration management development programmes, and undertaking focused research in selected areas of technology management. "In the new world order, technology has occupied the center stage in all walks of life and conscious attempt should be made to exploit its full potential in order to find enduring solutions to the problems of common man i.e. illiteracy, unemployment, ill health and even insurgency, which plague the nation," said Dr. R A Mashelkar, Secretary, Department of Scientific and Industrial Research and Director General, Council of Scientific and Industrial Research, Government of India, New Delhi in his keynote address at the MoU Signing Ceremony. Dr. Mashelkar complimented the Department of Business Management, Osmania University for taking a bold, relevant and pioneering initiative of introducing MBA Technology Management Programme with active support and collaboration of CII and Department of Scientific and Industrial Research, Government of India. Continuing the address, he called for the use of state-of-the-art computer-based Multimedia Technology for the eradication of the mammoth problem of illiteracy in a short period of time. He also cited the example of solving the problems of insurgency and restlessness on the part of youth in Manipur by making an innovative use of technology for creating tremendous job opportunities for the unemployed youth. He called for the need for multiplying these success stories along the length and breadth of the country by using the technology for nation building endeavours. He emphasized the need for Technology Management in the Globalised environment where the specific issues like technology sourcing forecasting, acquisition and indeginisation of technology have become relevant for business organizations. He noted that technology can be leveraged for competitive advantage.

Dr.(Mrs.) Jyoti S A Bhat, Advisor, DSIR, in her address elaborated about the initiatives and linkages of DSIR with several leading research laboratories, industries and IIT's in the country. She noted that the present MoU between DSIR and Osmania University is the first of its kind with any University in India. Mr. R Hanumanth Rao, Coordinator, MBA Technology Management Programme elaborated about salient features of the MoU.

Prof. J Ananatha Swamy, Vice Chancellor, Osmania University who presided over the MoU Signing Ceremony, said that the technology has assumed an omnipotent and omni present role in all organizations, irrespective of their size and called for a pressing need for 'technology literacy' on the part of future managers as their decisions in different functional areas have technology-related ramifications.

The MoU was signed by Dr.(Mrs) Jyoti S A Bhat, Advisor, DSIR and Prof. M Mutha Reddy, Registrar, Osmania University on behalf of their respective organizations. Prof. Mohd. Abbas Ali, Dean, Faculty of Management, Prof. D Ramchandram, Head, Department of Business Management, Prof. V Shekhar, Chairman Board of Studies in Business Management, Shri R Hanumanth Rao, Coordinator, MBA (Technology Management) Programme and Shri B S Rao, Public Relations Officer, Osmania University also spoke on the occasion.

TVU—IGNOU Tie-up

The Tamil Virtual University (TVU) which provides Internet-based resources on Tamil culture and language for ethnic Tamils living abroad, recently entered into a Memorandum of Understanding with the Indira Gandhi National Open University (IGNOU) for sharing academic resources and offering joint degree programmes. Prof. V.C. Kulandaiswamy, Chairman of the TVU Board and Prof. H.P. Dikshit, Vice Chancellor, IGNOU signed the agreement in the presence of Prof. Arun Nigavekar, Chairman, University Grants Commission; TVU Board Member, Prof. M. Anandakrishnan; the Prof E. Balagurusamy, Vice Chancellor, Anna University; the State Information Technology Department Secretary, Shri. Vivek Harinarain; and Prof. V.S. Prasad,. Director National Assessment and Accreditation Council, Bangalore. The MoU envisages collaboration and resource-sharing in online teaching methods, as also cooperation in the development of education and training in English and Tamil languages. One of the strategies to reach the objectives will be to design, develop and implement graduate and masters level programmes. Prof. Kulandaiswamy said that he was happy that IGNOU, one of the world's largest open universities, had agreed to work with an infant institution like the TVU. The Virtual University sought to meet the requirement felt by ethnic Tamils the world over for resources that could help them revive bonds with their culture, language and art. The TVU online resources included a digital library comprising almost all major Tamil works from the Sangam era down to the modern literature works, a lexicon and three dictionaries, besides 2.5 lakh technical terms in Tamil. Prof. Dikshit said that the agreement with TVU was an important initiative in the spread of the language. Prof. V. Sankarnarayanan, Director, Virtual University said that the B.A Tamil programme students in TVU could take an English course in IGNOU and credits would be transferred to the Virtual University Also, graduates from any university could study B A Tamil in TVU and they would be exempted from studying Part A (English or other language) and Part II mother tongue or regional language

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News Abroad

Chevening Scholarships

Chevening Scholars from Bangalore who had won scholarships to study in the United Kingdom, Britain were given their certificates at a ceremony which was organised at the British Trade Office, Bangalore. British Foreign Secretary, Dr. Jack Straw was the Chief Guest of the occasion. Presenting certificates, he said that ther will be increase in the number of scholarships being offered to Indians under the Chevening programme from the present 130 to 3,000 a year. Mr Straw said the largest number of scholars under the Chevening programme since its inception in 1983 were from India. He said that the U.K. Prime Minister Mr.Tony Blair had set a target to increase the number to 3,000 scholarships a year and Britain was committed to implement it. Mr Straw, however, did not mention any timeframe for achieving the target. He said that Bangalore had progressed remarkably well since his last visit to the city 12 years ago. The following Chevening scholars from Bangalore received certificates from Mr Straw: Akshay Khanna, Vinay Reddy, Aditi Madhok, Satish Chappanke, Supriya Unni, Ramesha Chandrappa, Mathew John, Deepa Abraham, Malavika Jayaram, Omprakash V Nandimath, Rammohan Sampath, Maghna Abraham, Suman Katarki, Susan Mani, Kalyani Sethuraman and Sanjiv Bhatia. British Chevening Scholarships are funded by the Foreign and Commonwealth Office and administered

(Contd on page no 28)

Management Education in Universities: A Journey in Learning

A new set of ideas is beginning to draw attention of both academicians and policy makers. They depict the educational institutions not just as creators of knowledge, trainers of young minds and transmitters of culture but also as major agents of economic growth. India has one of the largest higher education systems in the world. The country has 237 recognised universities, 46 deemed universities, more than 10,600 colleges and employs more than 330,000 teachers.

Management education in India is being imparted by about 900 institutes of various grades and university departments. India can boast of having worldclass institutes like IIM, Ahmedabad. The thirteenth edition of the 'Which MBA' survey published by the *Economist*, conducted across the top 40 business schools in the world, ranks IIM-A at sixth position in terms of quality of faculty. This is ahead of European schools like Cambridge's School of Business and London School of Business. In terms of course content also, the institute appears in the top five, and gets a rating of 90 per cent, superceded only by Yale, Harvard, IE (Spain) and Haute Etudes Commerciales (Paris).

As the blue revolution sweeps the world, the quality of management education is becoming more and more critical. But to produce results, management education needs to incorporate the insight, i.e., focus on the process of achieving certain results. What we need to realize is that the future does not belong to the learned, but the learner who can quickly adapt and respond to the rapid fire changes around them.

Management education needs to focus on the process of achieving certain results so as to produce products that are globally efficient, competitive, innovative and with a vision above all. To fulfill all these the hub of management education should follow the three aspects, viz :

1. Need based education leading to curriculum relevance
2. Learning based education leading to instructional quality
3. Value based education determining the social acceptability.

Curriculum Design

There is fast obsolescence of curriculum due to knowledge and technology explosion. Thus, the curriculum life cycle has to be understood and should be made market driven. Only then management courses shall meet the futuristic needs of the profession for which they exist. The educational institutions have to look at companies as their customer and abandon the present throw over the wall attitude.

Solutions

- For latest curriculum, we need improvement in infrastructure, technology, library, research facilities
- Preparing Quality instructional material in line with the changing curriculum
- Raising funds through training programmes, short term courses, consultancy projects
- Income to be retained by the respective department for further growth and development
- Academicians, subject experts, professionals, AICTE and UGC to determine & review the curriculum.

Learning Orientation

This leads us to the fact that management departments have to become learning organisations. It is not enough to know facts, concepts and principles. What is required is critical thinking, problem solving approach and communication skills. Also, integration of theory and practice has to keep pace with forces like the convergence of technologies, liberalization of trade and capital markets and the growth of borderless economies. Thus, the focus *has to be on double loop learning which implies* a movement from adaptive learning to generative learning. Thus, the approach should not be merely reactionary, which solves problems in the present as and when they happen. Instead, it should emphasize continuous experimentation and feedback in an ongoing way. Achieving this requires a look at a number of issues.

Solutions

- Incentives linked to performance so as to introduce meritocracy. Benefits to faculty members including variable pay and promotion must be based on learning and performance.
- Professional competence for better industry linkages to improve the overall productivity of educational set ups.
- Government agencies like FICCI, CII, District Industries Centre, etc., should also develop mechanisms to strengthen university-industry linkage
- Patent legislation for protecting intellectual property developed by the faculty members during their learning process.

Value Based

As economies become more high tech, the need for high touch is further heightened. Also, the increasing role of service sector in the world economy makes it imperative to understand the pivotal role of human capital. Thus, it is vital to look at soft issues and people skills due to movement from asset-based economy to talent-based economy. Towards this endeavour, management education needs to develop managers with a mind but also a person for the society.

Solutions

To introduce courses in the management pogrammes run by the universities in line with some introduced by other management institutes.

- International School of Business, Hyderabad has a compulsory module "Mind, Body and Soul" to meet the needs of the organization but also to congregate the demands on managers as individuals.
- Indian Institute of Management, Calcutta has a Management Centre for Human Values (MCHV) which strives to evolve the Vedantic Ethic
- Indian Institute of Management, Lucknow has a Centre for Value based leadership
- School of Management (SOM) at IIT, Bombay has the Leadership, vision and entrepreneurship module in final year. This involves interaction with business leaders to understand their style and perception of leadership and vision.
- The institute plans to start a module on Ethics and Corporate Governance
- Jamnalal Bajaj Institute of Management Studies has a module on Business Ethics

Thus, knowledge is external where as wisdom is internal which comes about only through the right learning process, which is a journey and not a destination.

Kalpana Mathur
Professor
Department of Management Studies, Jai Narain
Vyas University, Jodhpur 342011 ❑

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Commonwealth Office and administered by the British Council, *to enable overseas students to study in the* United Kingdom.

The British government would not put any obstacles to outsourcing services from India, said Mr Straw while speaking on 'Britain and India: A changing and prospering partnership,' Mr Straw said that by outsourcing services, companies investing in Britain had created many Lbs. "Nearly 5,500 call centres were in operation and providing employment to 400,000 people," he added. He said that India in turn should open its doors to legal services, so that British firms could set up their offices in India, to provide international legal serivces here. He added that Britain was the third largest investor in India while India was the eighth largest investor in UK.

MoU between IIT Bombay and University Nuremberg-Erlangen

The members of Bavarian Minister President Dr. Edmund Stoiber's delegation, the President of the Technical University Munich, Prof. Dr. Wolfgang A. Herrmann, and the President of the University Erlangen/ Nuremberg, Prof. Dr. Karl-Dieter Grueske, visited the Indian Institute of Science (IISc) and the National Centre for Biological Sciences (NCBS) in Bangalore, further the Indian Institute of Technology (IIT) in Mumbai as well as the IIT and the Institute of Genomics and the Integrative Biology (IGIB) in Delhi.

A Memorandum of Understanding has been signed between IIT Bombay and the University Erlangen/ Nuremberg aiming at intensification of collaboration between faculty and students. The MoU confirms the introduction of a faculty and student exchange programme including short-term and semester-wise registration, cooperative research projects, a joint integrated MS/PhD programme as well as a joint computer based distance education and research programme.

Gisela Bonn Preis Award for Achievements in Indo-German relations

The Gisela Bonn Preis for outstanding achievements in enhancing Indo-German relations will be awarded to a junior scientist, scholar or journalist by the Deutsch-Indische Gesellschaft e.V. and the Indian Council of Cultural Relations. The award consists of a two weeks fully sponsored stay in India, including travel and is meant to enable the awardee to get a deeper experience of the country.

Names of candidates may be proposed by a German or Indian cultural institution such as universities, Max Mueller Bhavans or DAAD by 15 May 2004. For enquiries contact the Director of the Deutsch-Indische Gesellschaft, Mr. Christian Winkle: Phone 0049-711-297078 or Fax 0049-711-2991450. ❑

BOOK REVIEW

An Interesting Piece of Historiography

Lata Chandola
(B. D. K. Mahavidyalaya, Agra Cantt. Agra)

R P Singh, 2003, Indian History in the Dock–Secular jihadis versus intellectual barbarians, All India Association of Teacher Educators, New Delhi, pp 192, price Rs 250/-.

The present publication is a scholarly research work on the current controversy regarding NCERT's History Textbooks. Alongside, this discourse has also extended the range and sweep of its coverage by touching upon those gray areas in Indian history that might as well have been left out. It would appear that Indian historians have currently divided themselves into two ideologically opposed camps - one, the Marxists/ secularists and the other belonging to the BJP/pro-VHP. The author regrets that this should have happened the way it has. Unfortunately, in this process both Indian History and some distinguished historians have come to sully their reputation. And to top it all, the Indian History Congress, which has had such a glorious past has joined the war as it were at the behest of the Marxists. Unfortunately, the language and the style employed by both camps don't seem to have covered either of them with any glory.

The author has examined in detail why NCERT came to write and produce textbooks when it was not mandated to do so. This piece of research should be an eye opener to many. The other piece of research is a write-up on the Annals of Indian Rebellion a collection of memories of English soldiers and civilians most of whom were either eyewitnesses or victims of 1857 struggle. We all know that 1857 is an important event in the history of India. It marks the beginning of the war of India's Independence. The selection of evidence reflects the motivation hidden behind a given write-up. It is an interesting piece of historiography in which selection of evidence is shown to betray lack of transparency and a strong desire to propagate one's ideology.

The message author tries to convey, according to me is that History, as a discipline should not be used as a weapon of ideological warfare. As it is, already Indian society shows signs of fissure and communal divide. Why must intellectuals try to *foment additional troubles?*

The current controversy has at least done one good. It has demonstrated how a Discipline can be converted into a ballistic missile to settle scores.

The book should be made compulsory reading for all teachers who teach History both at the school and college level. For the first time it has come to illustrate that selection or omission of evidence can play havoc with the message a historian may be intending to give. Controversies in academic matters are part of professional hazards but such events are rare when these matters are allowed to occupy center-stage in the media. I am quite sure had the media not joined in with equal vehemence, the NCERT textbooks would have remained a topic/ theme of purely in-house controversy. That it did not happen is in a way good because for once the NCERT will have to rethink about its role in the production of textbooks and the selection of its historians. Secondly, this is likely to make the lay and expert both realize that History has its other uses too beyond classrooms. ❑

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities (Notifications received in AIU during January-February, 2004)

AGRICULTURAL & VETERINARY SCIENCES

Agricultural Chemicals

1. Ray, Sankhajit. **Investigation on the residue, dissipation, translocation and degradation of some pesticides.** (Prof A Chowdhury), Department of Agricultural Chemicals, Bidhan Chandra Krishi Vishwavidyalaya, Mohanpur, Distt Nadia.

Agricultural Extension

1. Puthira, Prathap D. ***Relative effectiveness of farm communication through mass media including new media: An experimental approach with rural women.*** Department of Agricultural Extension, Tamil Nadu Agricultural University, Coimbatore.

Agronomy

1 Hari Shanker **Improved production technology of late sown mustard (Brassica juncea (Linn.) Czern & Coss.** (Dr G R Singh), Department of Agronomy, Narendra Deva University of Agriculture and Technology, Faizabad

2 More, Subhash Mahadev. **Effect of row spacings and intercrops on growth, yield, quality and economics of SURU sugarcane (CO-86032) and its ratoon under drip irrigation.** (Dr P G Bhoi), Department of Agronomy, Mahatma Phule Krishi Vidyapeeth, Rahuri.

3 Walia, Sohan Singh. **Ecological studies on organic vs chemical farming under diversified cropping systems for sustainable agro-eco system.** Department of Agronomy, Punjab Agricultural University, Ludhiana

4 Yadav, Dharm Pal ***Studies on diversification of existing rice wheat cropping system in respect to various rice cultures.*** (Dr R S Dixit), Department of Agronomy, Narendra Deva University of Agriculture and Technology, Faizabad

Crop Physiology

1 Singh, Manish Kumar **Modulation of vegetative growth for optimum fruiting in parwal (Trichosanthes dioica Roxb.) through growth regulators.** (Dr G S Chaturvedi). Department of Crop Physiology, Narendra Deva University of Agriculture and Technology, Faizabad.

Horticulture

1. Ajit Kumar. **Effect of mulching and irrigation on growth, yield and quality of arivi (Colocasia esculenta variety Esculenta).** (Dr P K Singh), Department of Vegetable Science, Narendra Deva University of Agriculture and Technology, Faizabad.

2 Jashkaran Singh. **Studies on processing and storage stability of pomegranate (Punica granatum L.) products.** (Dr A K Singh), Department of Horticulture, Narendra Deva University of Agriculture and Technology, Faizabad.

3. Pereira, Lolly S **Growth flowering and fruiting *behaviour of litchi cultivars in West Bengal.*** (Prof S K Mitra), Department of Fruits and Orchard Management, Bidhan Chandra Krishi Vishwavidyalaya, Mohanpur, Distt Nadia.

4. Sunil Kumar **Studies on bio-chemical fertilizers and micron-utrients on flowers yield and oil quality of Matricaria chamomilla Linn. in sodic soil conditions.** (Dr J Prasad), Department of Horticulture, Narendra Deva University of Agriculture and Technology, Faizabad.

5. Upadhayay, Sandeep Kumar **Effect of feeding of the extract of mahua flowers (Bassia latifolia ROXB) on the growth, strength of bee colony, biochemical changes during larval development and honey production.** (Dr R P Singh), Department of Entomology, Narendra Deva University of Agriculture and Technology, Faizabad

6 Yadav, Vijay Kumar ***Salt tolerance studies on mango (Mangifera indica L.) rootstocks.*** (Dr H K Singh), Department of Horticulture, Narendra Deva University of Agriculture and Technology, Faizabad

Plant Breeding

1 Vimal, Subhash Chandra. **Genetic analysis of yeild and yield contributing characters in mungbean (Vigna radiata (L.) Wilczek).** (Dr P K Singh), Department of Genetics and Plant Breeding, Narendra Deva University of Agriculture and Technology, Faizabad

Plant Pathology

1 Kohire, Omprakash Dadarao **Epidemiology and management of powdery mildew of rapeseed mustard.** (Dr C D Mayee), Department of Plant Pathology, Marathwada Agricultural University, Parbhani.

2 Pandey, Mukesh Kumar **Some aspects of epidemiology and principles of control of mango malformation.** (Dr D K Chakrabarti), Department of Plant Pathology, Narendra Deva University of Agriculture and Technology, Faizabad

Soil Science

1 Neeraj Kumar **Long term effect of integrated nutrient management on soil properties, nutrients uptake, growth and yield of rice in rice wheat cropping system.** (Dr Room Singh), Department of Soil Science, Narendra Deva University of Agriculture and Technology, Faizabad

Veterinary Science

1 Pal, Rajesh Kumar **Studies on feed milk relationship in buffaloes of rural areas of Kushinagar District, U P.** (Dr D N Verma), Department of Veterinary Biochemistry, Narendra Deva University of Agriculture and Technology, Faizabad

2 Sharma, Rakesh Kumar **Studies on effect of minerals and hormonal interventions on reproductive performance of buffaloes in different agroclimatic zones of Punjab.** Department of Veterinary Science, Punjab Agricultural University, Ludhiana.

BIOLOGICAL SCIENCES

Botany

1. Arshad Iqbal. **Ecological studies of Parthenium hysterophorus Linn. from waste lands of Nalanda.** (Dr D D Pandey), Department of Botany, Magadh University, Bodh Gaya

2. Dinesh Prasad. ***Ecological studies of Helianthus annuus from Nawada, Bihar.*** (Dr R K Sinha), Department of

Botany, Magadh University, Bodh Gaya

3. Lohare, Sunita Dhundiraj. **Studies in airspora over soybean and vegetable fields at Udgir.** (Dr B M Karappa), Department of Botany, Swami Ramanand Teerth Marathwada University, Nanded

4. Nirala, Ashwiani Kumar. **Responses of some millets to dust pollution by stone crusher around Kaimur Hill of Sasaram, Bihar.** (Dr D D Pandey), Department of Botany, Magadh University, Bodh Gaya.

5. Pankaj Kumar. **Ecological studies of lowlands of Chhotanagpur Plateau, Bihar.** (Dr S P Singh), Department of Botany, Magadh University, Bodh Gaya.

6. Sinha, Ashok Kumar. **Effect of fly ash pollution on phytosociology, primary productivity energetics and nutritional quality of grassland ecosystem.** (Dr D D Pandey), Department of Botany, Magadh University, Bodh Gaya

Cellular & Molecular Biology

1. Arora, Puneeta. **Regulation of the A-Type lamin gene dual promoter during male germ cell differentiation.** (Dr Veena K Parnaik), Centre for Cellular and Molecular Biology, Jawaharlal Nehru University, New Delhi.

2. Arumugam, Prakash. **Studies on sterol reductases using the erg-3 Mutant phenotype of neurospora crassa.** (Dr Durgadas P Kasbekar), Centre for Cellular and Molecular Biology, Jawaharlal Nehru University, New Delhi.

3. Bajpai, Ruchi. **Appendage development in drosophila: Basic pattern and modifications by homeotic genes.** (Dr L S Shashidhara), Centre for Cellular and Molecular Biology, Jawaharlal Nehru University, New Delhi.

4. Regha, K. **An essential role of recD for growth at low temperature in the antarctic psychrotrophic bacterium pseudomonas syringae.** (Dr Malay Kumar Ray), Centre for Cellular and Molecular Biology, Jawaharlal Nehru University, New Delhi

Life Sciences

1. Bairwa, Narendra Kumar. **Low resolution mapping of chromosome 17p13 and 17q21-24 regions by loss of Heterozygosity (LOH) in sporadic breast tumors and its correlation with clinical parameters.** (Prof R N K Bamezai), School of Life Sciences, Jawaharlal Nehru University, New Delhi.

2. Bhomkar, Prasanna S. **Investigations on the regeneration and transformation of Vigna Mungo.** (Prof Neera B Sarin), School of Life Sciences, Jawaharlal Nehru University, New Delhi

3. Gupta, Varsha. **Photoregulation of chloroplast biogenesis in wheat seedlings grown under red light.** (Prof B C Tripathy), School of Life Sciences, Jawaharlal Nehru University, New Delhi

4. Joshi, Amita. **Analysis of upstream regulatory region(s) of a plant calmodulin gene.** (Prof K C Upadhyaya), School of Life Sciences, Jawaharlal Nehru University, New Delhi.

5. Kalita, Jatin. **Survey of insect pests damage of stored pulses in Brahmaputra Valley of Assam and their management.** (Dr P R Bhattacharyya), Department of Life Sciences, Dibrugarh University, Dibrugarh.

6. Maneesha. **Studies on retrotransposons of pigeonpea (Cajanus cajan).** (Prof K C Upadhyaya), School of Life Sciences, Jawaharlal Nehru University, New Delhi

7. Sahoo, Nivedita. **Functional analysis of the calcium binding protein of Entamoeba histolytica.** (Prof Alok Bhattacharya), School of Life Sciences, Jawaharlal Nehru University, New Delhi

8. Saikia, Nabin. **A study on taxonomy and certain aspects of utilitarian values of aqualaria malaccensis Lamk native to North East India.** (Dr S C Nath), Department of Life Sciences, Dibrugarh University, Dibrugarh.

9. Shukla, Suneet. **Functional characterisation of multidrug transporters of a pathogenic yeast, candida albicans.** (Prof Rajendra Prasad), School of Life Sciences, Jawaharlal Nehru University, New Delhi.

10. Som, Soumitra. **Limnological studies of Rudrasagar wetland with reference to Zooplankton.** (Dr S Banik), Department of Life Sciences, Tripura University, Agartala.

11. Thakur, Debajit. **Heterokaryosis of streptomyces Sp. for improved biotransformation of penicillin to cephalexin with simultaneous production of an antibiotic.** (Dr M K Roy), Department of Life Sciences, Dibrugarh University, Dibrugarh.

Microbiology

1. Agrawal, Vishal. **Structural studies of Eps8-SH3 domain with its complementary proteins.** (Dr K V Radha Kishan), Institute of Microbial Technology, Jawaharlal Nehru University, New Delhi.

2. Vinod Singh. **Understanding the regulation of antigen specific T helper cells by cytokines and costimulatory molecules expressed on distinct antigen presenting cells.** (Dr Javed N Agrewala), Institute of Microbiology, Jawaharlal Nehru University, New Delhi

Zoology

1. Neena. **Eco taxonomy and biology of terrestrial earthworms of North Indian States.** Department of Zoology, Punjab Agricultural University, Ludhiana.

2. Taskeen Fatima. **Identification of hormones, hormonal and pesticide effect in the fresh water crab, Barytelphusa Guerini.** (Dr Sugitha Mathur), Department of Zoology, Osmania University, Hyderabad.

EARTH SYSTEM SCIENCES

Environmental Science

1. Chandrasekhar, K. **Ecological analysis of settled agropastoral farming in cold desert (Spiti Catchment, Himachal Pradesh).** (Prof K G Saxena and Dr K S Rao), School of Environmental Sciences, Jawaharlal Nehru University, New Delhi

2. Hoque, Raza Rafiqul. **Implications of aromatic VOC emission on urban air quality of Delhi.** (Dr P S Khillare), School of Environmental Sciences, Jawaharlal Nehru University, New Delhi.

3. Pawale, Rajkumar Govindrao. **Characterisation of fluoride and iodide from major drinking water reservoirs in Nanded District and its significance.** (Dr G A Kadam), Department of Environmental Science, Swami Ramanand Teerth Marathwada University, Nanded.

4. Sengupta, Aniruddha. **An investigation of mutant variants for structural and functional analysis of hyaluronan binding protein 1(HABP-1).** (Prof Kasturi Datta and Dr Rakesh K Tyagi), School of Environmental Sciences, Jawaharlal Nehru University, New Delhi.

ENGINEERING SCIENCES

Biotechnology

1. Akhaury, Prema. **Heterogeneity of transcriptional activity of oral tumour associated p53 mutants.** (Dr Uttam Pati), Centre for Biotechnology, Jawaharlal Nehru University,

New Delhi.

2. Prasanna Kumar, D. **Solvent mediated thermal stability and refolding of Yeast Hexokinase A.** (Dr Rajiv Bhat), Centre for Biotechnology, Jawaharlal Nehru University, New Delhi.

3. Sarita. **Identification of factor(s) that bind to regulatory element of human APO(a) gene.** (Dr Uttam K Pati), Centre for Biotechnology, Jawaharlal Nehru University, New Delhi

4. Singh, Gyanesh Bahadur. **Molecular cloning, expression and purification of mycobacterium tuberculosis-specific antigenic proteins and their role in modulating immune functions of the macrophages.** (Dr Pawan Sharma), International Centre for Genetic Engineering and Biotechnology, Jawaharlal Nehru University, New Delhi.

5. Yengkhom, Sangeeta Devi. **Bioprocess optimization of xylanase production using bacillus culture.** (Dr K J Mukherjee), Centre for Biotechnology, Jawaharlal Nehru University, New Delhi.

Computer Science

1. Sharma, Praveen. **Deterministic and stochastic models of innovation diffusion with heterogeneity.** (Prof Karmeshu), School of Computer and System Sciences, Jawaharlal Nehru University, New Delhi.

MATHEMATICAL SCIENCES

Astronomy

1. Rukmani, J. **Photometric studies of WUMa type binaries FZ orionis and variables in open clusters Be 33 and NGC 6791.** (Prof P Vivekananda Rao), Department of Astronomy, Osmania University, Hyderabad.

MEDICAL SCIENCES

Genetics

1. Goud Kalal, Iravathy. **Genotoxicity evaluation in workers occupationally exposed to photocopying machines.** (Prof K Prabhakar Rao), Department of Genetics, Osmania University, Hyderabad.

2. Malathi, B. **Genetic transformation studies in castor (Ricinus communis L.).** (Dr V Dashavantha Reddy), Department of Genetics, Osmania University, Hyderabad.

3. Padmini, A. **Genetic and biochemical studies in arthritides.** (Dr Prathiba Nallari), Department of Genetics, Osmania University, Hyderabad.

Immunology

1 Balajee, S R **Peptide ligation and protein assemblage by reverse proteolysis.** (Dr Rajendra P Roy), National Institute of Immunology, Jawaharlal Nehru University, New Delhi.

Pharmaceutical Science

1. Akhtar, Md Sohail. **Folding-unfolding studies on glucose oxidase and hyaluronidase.** (Dr Vinod Bhakuni), Central Drug Research Institute, Jawaharlal Nehru University, New Delhi.

2. Kandarapu, Raghupathi. **Development and evaluation of novel acide-buffering vaginal formulations for prevention and treatment of sexually transmitted infections.** (Dr Sanjay Garg), Department of Pharmaceutics, National Institute of Pharmaceutical Education and Research, S A S Nagar, Mohali.

3 Mittal, Shilpi. **Asymmetric synthesis of arylpropionic acids.** (Dr H P S Chawla), Department of Medicinal Chemistry, National Institute of Pharmaceutical Education and Research, S A S Nagar, Mohali.

PHYSICAL SCIENCES

Biochemistry

1. Vasireddy, Vidyulatha. **Calcium mediated degradative changes in B-thalassemic erythrocytes.** (Prof Ch V Ramanadevi), Department of Biochemistry, Osmania University, Hyderabad.

Chemistry

1. Barman, Dhiren Chandra. **Cycloaddition reactions in the synthesis of heterocycles of biological significance and some functional group transformation.** (Dr J S Sandhu), Department of Chemistry, Dibrugarh University, Dibrugarh

2 Baruah, Monalisa. **1,3-Dipolar cycloaddition reaction: Syntheses of nitrogen heterocycles of biological interest.** (Dr Dilip Konwar), Department of Chemistry, Dibrugarh University, Dibrugarh.

3 Bordoloi, Ranjit **Environmental geochemistry around Jorhat, Assam: A case study.** (Dr Probhat Kotoky), Department of Chemistry, Dibrugarh University, Dibrugarh

4 Eswarappa, B **Electrochemical investigation of certain organic compounds by cyclic voltommetry.** (Prof B S Sherigar), Department of Chemistry, Kuvempu University, Shimoga.

5. Hazarika, Saroj **Chemical manipulations of 20-oxopregnanes towards the development of steriodal molecules of biological significance.** (Dr P K Chowdhury), Department of Chemistry, Dibrugarh University, Dibrugarh

6. Saha, Amitabha. **Induction of metachromasia in basic dyes by small molecules.** (Dr A K Bhattacharjee), Department of Chemistry, Tripura University, Agartala

7. Saikia, Promod **Studies on synthetic manipulation of heterocycles of biological significance and new synthetic methods.** (Dr J S Sandhu), Department of Chemistry, Dibrugarh University, Dibrugarh

Physics

1 Aslam, J Mohiuddin **Biophysical studies on blood of tobacco smokers.** (Prof Adeel Ahmed), Department of Physics, Osmania University, Hyderabad

2 Bhattacharya, Sutapa **Spectroscopic investigation of some pigment gallstones and biological molecules.** (Dr G D Baruah), Department of Physics, Dibrugarh University, Dibrugarh.

3 Khan, Mir Sajjad Mohiuddin Ali **Studies of non uniform electric field effects on biomaterials.** (Prof G Gopala Krishna), Department of Physics, Osmania University, Hyderabad.

4. Mahapatro, Ajit Kumar **Experimental investigation on charge carrier transport in organic molecular semiconductors.** (Dr Subhasis Ghosh), School of Physical Sciences, Jawaharlal Nehru University, New Delhi

5 Mubashir Uz Zafar, Mohd Khalid **Dielectrophoretic studies on alterations in electrical properties of human red blood cells due to storage in different preservative solutions.** (Prof Adeel Ahmed), Department of Physics, Osmania University, Hyderabad.

Compiled by:
Ms Surinder Chawla

UNIVERSITY OF MADRAS

Accredited by NAAC at the Five Star Level and
University with Potential for Excellence

* * * * *

ADMISSION NOTIFICATION
M.B.A. AND M.C.A DEGREE PROGRAMMES

Applications are invited for admission to Full-time M.B.A (Regular and Self-supportive) and M.C.A. Degree Programmes under Choice Based Credit System (CBCS) of this University, for the academic year 2004-2005.

ELIGIBILITY

MBA Degree Course (Regular - 2 years) **MBA Degree Course (Self-supportive- 2 years** **Timing 3.00 p.m. to 8.00 p.m) No. of seats. 40 each**	***MCA Degree Course (3 Years)*** **No. of Seats : 20**
Candidates shall be required to have passed a Bachelor's Degree of the University of Madras or any other University or a qualification accepted by the Syndicate of this University as equivalent thereto	Candidates who have passed in any recognized Bachelor's degree of minimum 3 years duration in any discipline with Mathematics at 10+2 school level (or) Bachelor's degree of minimum 3 years duration in any discipline with Mathematics as one of the subjects.

ADMISSION PROCEDURE: Selection will be made based on the **marks obtained in the Tamil Nadu Common Entrance Test (TANCET)** conducted **by the Anna University** on **behalf of the Government of Tamil Nadu**, following the Community-*wise reservation as stipulated by the Government* ***The candidates from other States except SC/ST candidates, will be*** **considered under General Turn.**

Therefore, the candidates (including other State candidates) who aspire for admission in the University of Madras shall appear for the **Tamil Nadu Common Entrance Test (TANCET) to be conducted on 29-05-2004. The details of the Entrance Examinations have been published in the dailies on 21-03-2004.** **The details are also available in website: www.annauniv.edu/tancet2004.**

Those who are appearing for University Final year Examinations in April/May 2004 may also apply for TANCET 2004 and admission for the above Programmes

15% supernumerary seats are available for MBA (Regular) and MCA programme for the Foreign National/NRI having a foreign passport without Entrance Examination 15% supernumerary seats are available for MBA Self-supportive @ Rs 1.00 lakh per annum, for Sponsored candidates. However, the sponsored candidates also must appear for TANCET. Candidates applying for self-supportive MBA program should not be employed during the course.

HOW TO GET APPLICATION FORM FOR ADMISSION TO MBA/MCA IN THIS UNIVERSITY

Separate Application has been prescribed for each course Application form and Prospectus can be had in person from the University Enquiry Office on submission of a Demand draft for Rs. 500/- (Rs. 350/- in the case of SC/ST candidates on production of attested photo copy of community certificate) drawn in favour of the "Registrar, University of Madras, Chepauk, Chennai - 600005" along with a requisition letter.

Applications, if required by post, can be had on a written requisition with a DD for Rs. 550/- (Rs. 500/- for Application & Rs 50/- for postal expenses) and for SC/ST Rs. 400/- (Rs. 350/- for Application & Rs. 50/- for postal expenses). The University is not responsible for any Postal delay. **Cost of application once paid will not be refunded under any circumstances.**

COMMENCEMENT FOR ISSUE OF APPLICATION : 03-05-2004
LAST DATE FOR ISSUE OF APPLICATION : 18-06-2004
LAST DATE FOR SUBMISSION OF APPLICATION : 23-06-2004

For details visit website: www. unom.ac.in

Advt.No CBCS/Admn /MBA&MCA/2004-05/G2AD-002

REGISTRAR I/C.

GURUKULA KANGRI VISHWAVIDYALAYA, HARIDWAR

ADMISSION NOTICE (2004-2005)

FOR ADMISSION TO M.Sc. & B.P.Ed. COURSES

Applications are invited for Entrance Examination for admission to the following courses:

1. **Master of Science (M.Sc.)** - Two year Post Graduate Course (for male/female candidates)
   Subject : Mathematics, Physics, Chemistry, Microbiology, Environmental Science
2. **Bachelor of Physical Education (B.P.Ed.)** - One year Course (only for male candidates)

ELIGIBILITY

- **M.Sc. (Mathematics, Physics, Chemistry)**-Graduate (TDC) with second division & minimum 50% marks in the concerned subject.
- **M.Sc. (Microbiology)** - B.Sc (TDC) in biology group with minimum 50% marks
- **M.Sc. (Environmental Science)** - B.Sc./B.Sc (Agri.) three year degree course with minimum 50% marks
- **B.P.Ed. (only for male candidates)** - Graduate (TDC) with minimum 45% marks.
  (5% marks will be relaxed for SC/ST/GKV graduates for all the courses)

AGE LIMIT (For B.P.Ed. only) : Maximum 25 years (28 years for Sponsored / NRI sponsored candidates) as on 30-9-2004

NUMBER OF SEATS

(i) M.Sc. (for each Subject)

Male candidates - 20 (+10 for Sponsored / NRI sponsored candidates)
Female candidates - 20 (+10 for Sponsored / NRI sponsored candidates)

(ii) B.P.Ed. (only for male candidates)

Normal Fee - 22
High Fee - 22
Sponsored/NRI sponsored - 06

HOW TO APPLY

Application form and Information Brochure can be obtained w.e.f. **20th April 2004** from the office of the **Registrar, Gurukula Kangri Vishwavidyalaya, Haridwar** by paying **Rs. 100/- (Rs. 300/-** for sponsored / NRI Sponsored candidates) in cash or by sending a demand draft of **Rs.150/- (Rs. 350/-** for Sponsored / NRI Sponsored candidates). The demand draft should be in favour of **"Registrar, Gurukula Kangri Vishwavidyalaya, Haridwar"** drawn at **Punjab National Bank** or **State Bank of India** payble at Haridwar. The Application form and Information Brochure can also be purchased from the **Punjab National Bank, Gurukula Kangri**, Kankhal, Haridwar by paying **Rs. 110/- (Rs 310/-** for Sponsored / NRI Sponsored candidates) in cash.

The candidates appearing in the final year of qualifying examinations are also eligible to apply.

IMPORTANT DATES

• Availability of application form & information brochure from	**20th April 2004**
• Requisition for the application form & information brochure by post	**10th May 2004**
• Requisition for application form & information brochure by post for sponsored/NRI sponsored candidates	**10th July 2004**
• Last date of sale of application forms & information brochure	**20th May 2004**
• Last date of receipt of completely filled in application form in Vishwavidyalaya (both by registered/speed post or in person)	**20th May 2004**
• Last date of receipt of completely filled in application form for sponsored/NRI sponsored candidates (both by registered/speed post or in person)	**23rd July 2004**

DATE AND TIME OF ENTRANCE EXAMINATION

S.NO.	COURSE NAME	DATE	TIME
1	M.Sc (Maths, Environmental Science)	19-06-2004	08.30 A.M - 10.30 A.M
2.	M.Sc. (Physics, Microbiology)	19-06-2004	11.30 A.M - 01.30 P.M
3.	M.Sc. (Chemistry)	19-06-2004	02.30 P.M - 04.30 P.M
4.	B.P.Ed	20-06-2004	08.30 A.M - 10.30 A.M

EXAMINATION CENTRES

01 **Dehradun** : Female candidates of M.Sc.(all subjects)
02 **Delhi**: Male and female candidates of M.Sc.(all subjects) and male candidates of B.P.Ed
03 **Gurukula Kangri Vishwavidyalaya, Haridwar (Main Campus)** : Male candidates of B.P.Ed / M.Sc (all subjects)
04 **Jalandhar**: Male and female candidates of M.Sc (all subjects) and Male candidates of B.P.Ed
05 **Kanya Gurukula Mahavidyalaya, Roorkee Road, Jwalapur, Haridwar**: Female candidates of M.Sc (all subjects)

NOTE : On the basis of number of candidates, the examination centres may be changed

Prof. A.K. Chopra, Registrar

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE (BITS)

PILANI (RAJASTHAN) 333 031 http://www.bits-pilani.ac.in

ADMISSIONS FOR I SEMESTER 2004-2005

The Birla Institute of Technology and Science (BITS) Pilani, which is deemed to be a university, is an all-India Institute for higher education for men and women, fully residential, and awards its own degrees. Applications are invited for admission to the different degree programmes offered by the Institute at Pilani as well as at Goa.

I. PROGRAMMES

Admissions will be made on all-India basis strictly according to merit and suitability of the candidate to pursue the following programmes of studies

1. Integrated First Degree Programmes (Code: FD)

(i) at BITS, Pilani – Pilani Campus:

B.E.(Hons.): Chemical, Civil, Computer Science; Electrical and Electronics, Electronics & Instrumentation; Mechanical; **B.Pharm.(Hons.)**; **M.M.S.**(Master of Management Studies); **M.Sc.(Hons.):** Biological Sciences, Chemistry; Economics; Mathematics; Physics, and **M.Sc.(Tech.):** General Studies; Engineering Technology, Finance, Information Systems

(ii) at BITS, Pilani – Goa Campus:

B.E.(Hons.): Chemical; Computer Science; Electrical and Electronics Electronics & Instrumentation; Mechanical; **M.Sc.(Hons.):** Biological Sciences, Chemistry; Economics; Mathematics Physics, and **M.Sc.(Tech.):** Information Systems

Normal Input Pass in 10+2 from Central/State Board or its equivalent, with Physics, Chemistry, Mathematics and adequate proficiency in English

Note (i) Admissions are based on the normalized aggregate percentage of marks and there is no separate entrance examination.

(ii) Admissions to integrated first degree programmes at Pilani and Goa campuses are done through a single application form.

2. Higher Degree Programmes (Code: HD) at BITS, Pilani – Pilani Campus:

M.E. in Biotechnology, Chemical, Civil (with specialization in Structural Engg /Infrastructure Systems), Communication Engineering, Computer Science, Design Engineering, Manufacturing Systems Engineering; Mechanical; Microelectronics, Software Systems. **M.Pharm**

Normal Input Biotechnology - Any integrated first degree of BITS or its equivalent with adequate preparation in Biochemistry and Microbiology

Chemical; Civil; Computer Science; Mechanical - Integrated first degree of BITS in the same discipline or its equivalent.

Communication Engineering - Integrated first degree of BITS in Electrical & Electronics/ Electronics & Instrumentation or its equivalent.

Design Engineering; Manufacturing Systems Engineering – Integrated first degree of BITS in Mechanical or its equivalent or M Sc (Tech.) Engineering Technology of BITS or its equivalent with the requirement of taking certain additional courses.

Microelectronics-Integrated first degree of BITS in Electrical & Electronics/ Electronics & Instrumentation/ Computer Science/ Physics or its equivalent

Software Systems -Any Integrated first degree of BITS or its equivalent with specific prior preparation.

M.Pharm.- Integrated first degree of BITS in Pharmacy or its equivalent.

Note: For Higher Degree programmes, shortlisted candidates will be asked to come to Pilani for tests and interview at their own cost.

3. Doctoral Programmes leading to Ph.D. (Code: PH)

Applications are invited for Institute's Ph.D. programme in all areas of Engineering and Science disciplines.

Normal Input: Any Higher Degree of BITS or its equivalent. Any applicant with qualification equivalent to Integrated first degree of BITS will be first examined for suitability to one of the higher degree programmes of the Institute.

Shortlisted candidates will be called for a written test/interview for selections. Selected candidates will be given financial assistance in the form of either a fellowship of any government agency or of the Institute, project or teaching assistantship, full/partial tuition waiver or a combination of these.

Employed professionals having long experience and proven competence aspiring for Ph.D. programme will be considered under the 'Ph.D. Aspirants' scheme and will be allowed to pursue their research at their own locations of work.

II. DISTINCTIVE FEATURES OF THE EDUCATIONAL STRUCTURE AND SOME SPECIAL PROVISIONS

1. All programmes are of modular structure with several flexibilities like multiple point entry, transfer from one programme to another, possibility of doing two degrees simultaneously (dual degree) etc.

2. All students admitted to M.Sc.(Hons.) programmes will be given an opportunity to work under the dual degree scheme for one of the B.E.(Hons.)/ B.Pharm(Hons.)/ MMS programmes, assignment being made by competition on their performance at BITS at the end of first year, both in Pilani and Goa campus.

3. The Institute's well known PRACTICE SCHOOL option is available to all students admitted to the Integrated first degree and Higher degree programmes.

4. BITS, Pilani – Goa Campus is a newly constructed campus spread over 188 acres with facilities similar to those that are available at Pilani. The syllabus, instruction, evaluation and the standard will be same as in Pilani campus.

For details candidates must consult the Bulletin, which will be supplied along with the application form.

III. APPLICATION PROCEDURE

Application form and Bulletin can be obtained from the undersigned against a request on plain paper giving the name and code of the programme for which the application is requested, candidate's name, complete postal address with pin code, the required despatch mode and demand draft details, accompanied by requisite fee in the form of a crossed demand draft drawn in favour of **Birla Institute of Technology & Science (BITS), Pilani** payable at State Bank of Bikaner & Jaipur, Pilani (Code: 1398) or UCO Bank, Vidya Vihar, Pilani (Code: 0150) for Rs. 500/- (Registered Parcel Post) or Rs. 600/- (Registered Letter / Speed Post wherever speed post is available) or US $25/- or its equivalent (for sending to foreign countries by Airmail).

Deadline for submission of the completed application forms is 6.00 p.m. on 30th June 2004.

ADMISSIONS OFFICER
April, 2004 **BITS, Pilani – 333031 (Raj.)**

For more details, visit BITS Website : http://www.bits-pilani.ac.in

teri school of advanced studies

(A Deemed University under Section 3 of the UGC Act, 1956)

ANNOUNCES ADMISSIONS

TERI School of Advanced Studies announces opportunities for research on full-time basis leading to Ph.D. degree in the following *centres/department*:

1. **Faculty of Applied Sciences**
   Centre for Bioresources and Biotechnology
   Centre for Energy and Environment
   Department of Natural Resources
2. **Faculty of Policy and Planning**
   Centre for Regulatory & Policy Research

Details can be seen at website: www.terischool.ac.in

Eligibility

Faculty of Applied Sciences

a. M.Sc or M. Phil in a relevant field or equivalent
b. *Bachelor's degree in engineering or equivalent*

Faculty of Policy and Planning

a. M.A. or M. Phil. in economics, statistics, mathematics, *operational research or any allied field*
b. Master's degree in science or bachelor's degree in engineering or technology

Candidates having secured a first class or an equivalent grade and who have qualified for CSIR/UGC-NET fellowship will be preferred for the full time programme

HOW TO APPLY

Application form and brochure can be obtained from the **Registrar, TERI School of Advanced Studies,** ***Darbari Seth Block, Habitat Place, Lodi Road, New*** **Delhi 110 003**, on cash payment of Rs 250/- *if collected* personally or through post by sending a Demand Draft of Rs 300/- drawn in favour of **"Registrar, TERI School of Advanced Studies" payable at New Delhi.**

Completed forms along with a DD of Rs 500/- must reach the Registrar by **10 May 2004**.

Application forms may also be downloaded from the School's website www.terischool.ac.in, in which case a DD *of* Rs 750/- *must accompany the completed* form (the brochure is available on-line at the website).

IMPORTANT DATES

Issue of brochures & forms : 5 April, 2004 (Onwards)

Last date of receipt of completed forms : *10 May, 2004*

Interview (for short-listed candidates) : 15 June, 2004

Tel.: 011-24682100 or 24682111
Fax: 011-24682144 or 24682145
e-mail: registrar@teri.res.in
web: www.terischool.ac.in

POSTGRADUATE INSTITUTE OF MEDICAL
EDUCATION & RESEARCH, CHANDIGARH

NATIONAL INSTITUTE OF NURSING EDUCATION ADMISSION NOTICE

LAST DATE FOR RECEIPT OF APPLICATION : 7.5.2004 UPTO 4.00 P.M.

Applications on prescribed form are invited for the following courses at National Institute of Nursing Education, PGIMER, Chandigarh for the session starting from 19.07.2004. *INCOMPLETE APPLICATIONS WILL NOT BE ENTERTAINED AND NO CORRESPONDENCE WILL BE MADE IN THIS REGARD.*

1. **B.Sc. Nursing (4 years) (only for female candidates) Seats: 50**
   Qualifications : (a) 10+2 with Physics, Chemistry, Biology and English or any other equivalent examination recognized by Punjab University. Candidates appearing in April, May of the year can also apply. (b) Minimum age 17 years and maximum 25 years as on 31st December of the year.
2. **B.Sc. Nursing (Post-Basic) (2 years) Seats : 40**
   Qualifications : (a) 10+2 or any other equivalent examination recognized by Punjab University. (b) Three years experience by 30th June of the year in bedside or Public Health Nursing from a Hospital recognized by the State Govt./ Govt. of India (c) R.N. and R.M. as approved by INC or substitute registration in case of male candidates.
3. **M.Sc. Nursing (2 years) Seats : 8**
   Specialities : *(i) Medical Surgical (ii) Community Health*
   Qualifications (a) B.Sc. Nursing (Post Basic)/ B.Sc. Nursing degree of the Punjab University or any other equivalent degree recognized by Punjab University with 50% marks in aggregate. *(b) Two years experience by 30th June of the year in bedside nursing or Public Health* Nursing or Teaching in Nursing from institutions recognized by State Govt./ Govt. of India. (c) R.N. and R.M. as approved by INC or *substitute registration in case of male candidates.*

(The details of seats reserved for SC/ST/Sponsored candidates are given in the prospectus)
No. of seats may vary in a subject/ course without prior notice.

GENERAL INFORMATION

Application forms alongwith prospectus are available from the office of the undersigned either personally on payment of Rs 500/- for General Category and Rs.400/- for SC/ ST (Prospectus/ form purchased for SC/ ST category shall not be entertained in General Category) from 10.00 A.M. to 11.30 A.M. and from 2.30 P.M. to 4.00 P.M. on all working days except Saturday (on Saturday form will be available from 10.00 A.M. to 11.30 A.M.) or by post for which the request must be accompanied with a self addressed thick envelope of (24 cms x 19 cms) bearing postage stamps of Rs.45/- and Bank Draft for Rs 500/- and Rs 400/- for General and SC/ ST (indicating category i.e. General or SC/ ST) respectively drawn in favour of "The Director, PGI, Chandigarh" payable at S.B.I., MJ Branch code 1634.

NOTE:

1. *It is in the interest of candidate to send the applications through speed/ registered post.*
2. No request for the supply of the forms by post will be entertained after 30.04.2004

Email: [illegible]
Web: http://pgimer.nic.in

PRINCIPAL

NATIONAL INSTITUTE OF SCIENCE COMMUNICATION AND INFORMATION RESOURCES (NISCAIR)

NISCAIR

[illegible] INDUSTRIAL RESEARCH

ADVERTISEMENT NO. ETTG: 1/2004

INFORMATION SCIENCE COURSES

1. ASSOCIATESHIP IN INFORMATION SCIENCE 2004-06 (a two year course equivalent to Master's degree in Library & Information Science recognised by Govt. of India & many Universities).

Applications are invited for the 2004-2006 batch of the course commencing on **September 01, 2004.**

Eligibility : *A minimum of 50% aggregate marks in: Master's degree; or four-year plus degree like B.E./M.B.B.S; or Bachelor's degree plus* B.Lib.Sc. *plus* one year of relevant experience after B.Lib.Sc.

Selection : Twenty-five candidates based on Admission Test **(June 17, 2004)** and Interview **(3rd week of July, 2004).**

Test & Interview Centres : New Delhi, Kolkata, Bangalore/ Mumbai.

Scholarships : Provision for scholarships upto 40% of non-sponsored meritorious students @ Rs.1000/- per month for a period of 9 months exists.

How to apply : The prospectus and the application form can be obtained from **Head, ETTG from May 06, 2004** onwards in person or by sending a self addressed envelope (25cm x 20cm size) affixing Rs.25/- postage stamps and enclosing a DD / Postal Order for Rs 100/- drawn in favour of **Director, NISCAIR,** payable at **New Delhi.**

Prospectus and application form can also be downloaded from our website at **http://niscair.res.in.**

Last date for submission of completed applications : June 04, 2004.

2. SHORT-TERM COURSES DURING 2004-05

Topics : Information Technology for Information Management, Library Automation and Resource Sharing, Internet Access and Online Information Retrieval, Bibliometrics, Scientific Paper Writing, WINISIS & Electronic Publishing.

For details write to :

Head, ETTG, NISCAIR, 14 Satsang Vihar Marg, New Delhi - 110 067
Tel: 011-2686 3521, Fax : 011-2686 2228 E-mail : vkgupta@niscair.res.in
Visit us at http://www.niscair.res.in

TATA INSTITUTE OF SOCIAL SCIENCES

(A Deemed University)

[illegible]

No Admn/Advt/2004 April 2004

TISS invites applications for filling up the following vacant posts from candidates possessing qualifications and experience as per the stipulations of the University Grants Commission, to reach the Assistant Registrar (Personnel), TISS, Deonar, Mumbai 400 088, by May 21, 2004.

I) **Three posts of Professor** – (1) One post in the Department of Research Methodology, (2) One post in the Department of Urban and Rural Community Development and (3) One post in the Unit for Research in the Sociology of Education, **(II)** **One post of Reader** in the Department of Family and Child Welfare, **(III)** **One post of Lecturer** in the Department of Medical and Psychiatric Social Work, and **(IV)** **One post of Deputy Registrar (General Administration) - Reserved for SC.**

The candidates may apply on the form downloadable at **http://www.tiss.edu** together with the requisite fee by Demand Draft. The prescribed application form, along with the Detailed Information Sheet can also be obtained from the Assistant Registrar (Personnel) on payment of Rs.200/- for Professor, Rs.150/- for Reader and Deputy Registrar (General Administration), and Rs.100/- for Lecturer, either at the Cash Counter, TISS, Mumbai (between 10.30 a.m. and 3.00 p.m. on Monday to Friday), or by sending a Demand Draft drawn in favour of **Tata Institute of Social Sciences, Mumbai,** for the requisite amount accompanied by a self-addressed stamped envelope (worth Rs.25/-) of size 30 cm x 12 cm. For SC/ST candidates, application forms will be supplied free of cost on production of valid caste certificate.

C.P. Mohan Kumar
Acting Registrar

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A Weekly Journal of Higher Education

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BIRLA INSTITUTE OF TECHNOLOGY

MESRA, RANCHI - 835215

(A Deemed University u/s 3 of UGC Act, 1956)

Advertisement No. 2/94 (BITIC)

Birla Institute of Technology, Mesra, a leading institute of the country invites applications for the following posts for its **International Centres in the Gulf Region (Muscat/Bahrain)** at Lecturer/Reader level from the next academic session

1.	Computer Science & Engineering	7	(3 are required with Maths background)
2	Electronics	4	(Some are required who could assist in Electrical Engg. & Physics teaching)
3.	Management	5	(Different specilisations)
4.	Chemical Engineering	1	
5	Bio-Tech-Engineering	2	

Minimum Qualification — As per U.G.C. norms

Selected candidates shall be offered the post initially on contract for a period of two years, with a possibility of further renewal The candidates shall be paid in local currency of the respective country A Lecturer/Reader will be paid approx Rs.60,000/Rs.72,000 per month (Tax-free) respectively. An individual with reasonable standard of living can manage with Rs 30,000/- p.m.. Teacher will be permitted to take his family to the place of work. International travel and medical reimbursement for the individual and for the family will be paid by the Institute Interested candidates may send their bio-data **latest by 31st May 2004**, on the following address or on e-mail: *drsrivastava_cp@hotmail.com*

Dr C P Srivastava
Birla Institute of Technology, Extension Centre
A-7, Sector-1, NOIDA-201301 (India)

***Note:* At the end of the contract period the concerned employee having satisfactory performance would be absorbed in the Institute's main campus or in any of its campuses in India.**

INSTITUTE OF INFORMATICS & COMMUNICATION (IIC)

UNIVERSITY OF DELHI SOUTH CAMPUS (UDSC)

Applications are invited for admission to

TWO-YEAR M.Sc. (INFORMATICS) AND THREE-YEAR MASTER OF INFORMATION TECHNOLOGY (M.I.T.)*

for the session starting July 2004

The innovative and flexible programmes focusing on convergence of computer and telecommunication are designed in close collaboration with the I T industry and academic institutions. The programme has been well received by leading IT companies.

Admission Criterion : Objective type written test followed by interview and group discussion.

Eligibility : Appeared / passed in any of the following degrees or equivalent qualification from a recognized University / Institution *with atleast 50% (45% for SC/ST) marks in aggregate*

1. Bachelor's degree under 10+2+3 scheme (B.Sc./B.Sc.(H)/ B.Appl.Sc) in Physical Sciences/Chemical Sciences/Electronic Sciences/Mathematical Sciences/Computer Sciences/Any combination of subjects with atleast two from these disciplines.
2. B.E./B.Tech degree in any discipline

Number of Seats (40): The total number of seats for both M.Sc and M.I.T. put together will be 40.

How to apply : Information Bulletin along with the Application Form can be obtained between 10.00 a.m. to 4 00 p.m. on working days, from IIC, UDSC, New Delhi-110021, only against a demand draft of Rs. 150/-. Add Rs. 50/- extra in case of postal requisition Completed application forms must include a Demand Draft of Rs. 500/- (for General Category) and Rs 350/- (For Reserved Category) towards entrance examination fee Application Form can also be downloaded from our website http://www.iic.ac.in and can be sent along with the demand draft of Rs 650/- (for General Category) and Rs 500/- (for Reserved Category) *All the drafts must be drawn in favour of* Director, UDSC, payable at the SBI, New Delhi (Code NO. 7687)

LAST DATES

Requisition for the application forms by post	14 May, 2004
Sale of application forms from the counter .	21 May, 2004
Receipt of duly completed application forms (both by registered post or in person)	21 May, 2004

DATE OF ENTRANCE EXAMINATION :13 June, 2004

Test Centres : Delhi, Kolkata, Hyderabad, Mumbai, Bangalore and Lucknow

Note : University reserves the right to cancel any centre outside Delhi

*The students may opt for MIT at the end of 2nd Semester, subject to the approval of the University

UNIVERSITY OF ALLAHABAD

CSIR CHAIR ON INTELLECTUAL PROPERTY RIGHTS

Nominations and applications with Bio-Data are invited for the CSIR- endowed Chair on IPR. The Chair is in the Professor's scale with an additional personal pay of Rs.2000/-. It can be transferred into Reader's scale along with personal pay if suitable person is not available in the Professor's scale. The tenure will be for 5 years or the age of 65 whichever is earlier. Nominations/requests (on plain paper may be submitted to the Registrar, University of Allahabad, Allahabad-211002 with the superscription 'CSIR IPR Chair' on the cover) latest by **20th May, 2004**. Further details are posted on the University Website <<allduniv.edu>>.

APPOINTMENT ON PT. GANGA NATH JHA CHAIR

(In the Department of Sanskrit)

The University invites resume for the U.P. Govt endowed Pt. Ganga Nath Jha Chair from scholars of eminence in the field of Sanskrit in Professor's Scale (with additional pay of Rs 2000/- per month) with 5 years tenure or till the age of 65 years whichever is earlier. Applications/Nominations for consideration by the Search Committee. should reach Registrar, University of Allahabad-211002 **with the superscription 'Pt. Ganga Nath Jha Chair' on the cover,** latest by **20th May, 2004**. Further details are posted on the University Website <<allduniv.edu>>.

NIRALA CHAIR IN DEPARTMENT OF HINDI

The University invites resume, for the U.P. Govt. endowed Chair, named 'Nirala Adhyayan Evam Shodh Peeth, from Scholars/Persons of eminence in the field. Eligible individuals may also be nominated with their C.V. and consent. The Chair is in the Professor's scale. The tenure will be for 5 years or till the age of 65 whichever is earlier. Applications/Nominations for consideration by the Search Committee. should reach Registrar, University of Allahabad, Allahabad-211002 **with the superscription 'Nirala Chair' on the cover.** latest by **20th May, 2004**. Further details are posted on the University Website <<allduniv.edu>>.

APPOINTMENT ON M.N. SAHA CHAIR ON EXPERIMENTAL SPECTROSCOPY

The University invites Applications/Nominations with resume for appointment to a U.P. Government endowed M.N. Saha Chair in Experimental Spectroscopy from active researchers of eminence having 25 years of research experience and recognized contributions in the field and ability to establish a center of excellence. The Chair is in the scale of Professor and the appointment shall be for a period of five years or upto the age of 65 years whichever is earlier. The Applications/ Nominations and resume should reach the Registrar, University of Allahabad, Allahabad-211002 **with the superscription 'M.N. Saha Chair' on the cover**, latest by **20th May, 2004**. Further details are posted on the University Website <<allduniv.edu>>.

Prabhat Ranjan
REGISTRAR

CLASSIFIED ADVERTISEMENT

NOTIFICATION

Applications are invited for the following posts in the Athurasramam N.S.S. Homoeo Medical College, Kurichi, Kottayam in the prescribed form so as to reach the undersigned **within thirty days** from the data of publication of this notification.

1. **Professor** - Social and Preventive Medicine -1 post
2. **Professor** - Organon of Medicine - 1 post

Qualification:

1 A post graduate degree in the subject concerned from any of the universities in Kerala or from any other university recognised by the universities in Kerala as equivalent thereto

Or

In the absence of persons having post graduate degree in *Homoeopathy*, persons with Bachelors degree in Homoeopathy acquired after undergoing regular course of study for 5 ½ years will be considered

Or

In the absence of degree holders persons having diploma with diploma awarded by National Institute of Homoeopathy, Calcutta will be considered

2 Permanent registration under *Homoeopathic Medical Council*

3 10 years teaching experience

Age limit: Should not have completed 45 years of age as on 1-1-2004 subject to the usual relaxation admissible under rule 10 of the General Rules in the Kerala State and Subordinate Service Rules, 1958

***Scale of pay:** Rs. 14000-18000.*

The vacancies are open vacancies for selection on the basis of merit. Separate application is to be submitted for each post

Application form can be had from the office of the Chief Accounts & Audit Officer, N.S.S. Head Office, Perunna, Changanacherry-2, Kerala on payment of Rs.250/- in the office in cash and **Rs.260/- by money order** if the form is required to be sent by post

Sd/-
CHAIRMAN,
Governing Body,
Athurasramam N.S.S. Homoeo
Medical College, N.S.S. Head Office,
Perunna, Changanacherry-2.

CARMEL COLLEGE OF ARTS, SCIENCE AND COMMERCE FOR WOMEN NUVEM, SALCETE, GOA. 403 604.

Applications with full bio-data are invited for the following posts so as to reach the undersigned **within 15 days** from the date of publication of this advertisement. for the academic year 2004-2005

Applications must be accompanied by *certified copies of marksheets of all the* examinations from SSC onwards. Those already employed shall forward their applications through proper channel and shall account for break if any, in their academic career

Category of posts: General

1 Lecturer in Zoology	1 post	Full-time
2 Lecturer in History	1 post	Full-time
3 Lecturers in Physics	2 posts	Full-time
4 Lecturer in Hindi	1 post	On per lecture basis
5 Lecturer in Geography	1 post	On per lecture basis
6 Lecturer in Portuguese	1 post	On per lecture basis
7 Lecturer in Maths	1 post	On per lecture basis

Maternity Leave Vacancies of 135 days

8. Lecturer in Economics	1 post	
9. lecturer in Commerce	1 Post	
10.Lecturer in English	2 Posts	
11. Librarian	1 post	Full-time

Essential Qualifications: -

For posts at Sr. 1 to 10 - A Master's degree of a recognized University in the relevant subject with eight/six papers and at least 55% marks or its equivalent grade and good academic record

For post at Sr. No. 11 - Master's degree in library science/information science/documentation or an equivalent professional degree with at least 55% of the marks or its equivalent grade of B in the UGC seven point scale plus a consistently good academic record. *computerization of Library*

Candidates applying for the above posts must have passed the Eligibility test for lectureship/Librarian conducted by the *UGC, CSIR* or similar test accredited by the UGC. However, if such candidates are not available or found suitable, general category candidates will be appointed on temporary basis and the appointment will not be confirmed till the candidate passes the NET/SET

Appointments are subject to availability of workload and approval of the Goa University and Government of Goa

Scale of Pay : Rs 8000-275-13500 plus admissible allowances as per rules On per *lecture basis* Rs *125/- per lecture* Posts at Sr Nos 8-10 will be paid consolidated salary

Terms and Conditions of service are those laid down by the Goa University Government of Goa and other competent authorities

Sr. Emma Maria A.C.
PRINCIPAL

ATTENTION ADVERTISERS

Advertisers are requested to send the advertisements for publishing in the 'University News' through e-mail : aiu@del2.vsnl.net.in. This will help in speedy and accurate transfer of text. The text of the advertisement may be sent as an attachment through e-mail, preferably in MS Word. We solicit your cooperation in this regard.

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OFFERS

TWENTY-SIXTH FACULTY DEVELOPMENT PROGRAMME IN MANAGEMENT

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The major focus of FDP is on upgrading teaching, training, and research skills of management teachers - especially those teachers who have not had an opportunity to acquaint themselves with recent developments in teaching and research methods. The programme enables participants to develop competence in general management education as well as in management research and pedagogy

FDP is designed for management teachers, trainers, and researchers working in universities, colleges, professional institutes, staff training colleges, training centres of industrial organizations, government staff training institutes, and similar organizations. Applicants should have post-graduate level teaching experience **or** industrial/research experience of at least two years. Preference will be given to applicants aged less than 45 years.

Last date for receiving applications : July 30, 2004

For brochure and application form, please write to
Programme Officer (FDP)
INDIAN INSTITUTE OF MANAGEMENT
Vastrapur, Ahmedabad 380015
Email: fdcpo@iimahd.ernet.in or archana@iimahd.ernet.in
Fax 91-79-26306896 Phone : 91-79-26324961/ 26324821/ 26308357
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Indian Institute of Information Technology Allahabad

(Deemed University)

(A Centre of Excellence in Information Technology, established by Govt. of India)

Devghat, Jhalwa, Allahabad - 211 012 (INDIA)
Ph. 91-532-2552380; Fax: 91-532-2430006/2431689
Web: www.iiita.ac.in; E-mail: contact@iiita.ac.in

Admission Notice for Post Graduate Programs : 2004-2005

A Centre of Excellence in Information Technology IIIT-Allahabad has been established by Ministry of HRD, Govt of India, New Delhi, to nurture talent in the field of Information Technology and allied areas. With all the complex and State-of-the-art infrastructure in place, IIIT-Allahabad announces admissions for its following **2 Years Post Graduate Programs**

Sl. No.	Name of Program	No. of Seats available	Qualifying Degrees/ Examination.
01.	M.Tech. in Bioinformatics**	15 + 5*	Candidates having BE/B.Tech. M.Sc./ B.Pharm.Degrees in any Engineering & Science discipline followed by a valid GATE score in respective disciplines.
02.	M.Tech. in Information Technology (Intelligent Systems)	15 + 5*	
03.	M.Tech. in Information Technology (Wireless Communications & Computing)	15 + 5*	
04.	M.Tech. in Information Technology (Software Engineering)	15 + 5*	

(For NRI/ Foreign & Sponsored Candidates. No GATE requirements for NRI/ Foreign Sponsored & MBBS Candidates ** In addition MBBS Candidates are also eligible for this Program For details refer Information Brochure)*

- All GATE qualified and MBBS candidates shall be eligible for a monthly teaching assistantship of Rs 5000/-
- All Reservations for various categories as per GoI guidelines apply
- Candidates appearing in Qualifying Degree Examinations may also apply.
- Separate Form has to be filled for each program in case candidate is interested to apply for more than one program

Selection Procedure:

Only GATE (except MBBS, sponsored & NRI) qualified candidates are eligible to apply The Institute however reserves the right to call for written test and interview a limited number of candidates, based on merit in GATE, grades marks in the qualifying exams AS SPECIFIED in Information Brochure & on website

How to apply: Application Form-cum-Information Brochure can be obtained from the Institute in person or on request The request letter must be superscribed **"Request for M.Tech. Application Form"**. Application form with details is also available in the website www.iiita.ac.in. Cost of application form is **Rs.500/- (Rs.250/-for SC/ST candidates) to be paid in cash or through DD of any nationalized bank drawn in favour of 'IIIT-Allahabad'** payable at Allahabad In case of downloaded forms from website, DD may accompany the completed application form, without which it shall be summarily rejected

Important Dates

• Sale of Application Form-cum-Information Brochure begins	**- 15th April, 2004**
• Last date for issue of Application Form (by Post/ Courier)	**- 20th May, 2004**
• Last date for issuing (in person) & receiving completed application forms at IIIT-A counter	**- 25th May, 2004**
• Date of Written Test & Interview (at IIIT-Allahabad only) for screened in applicants in	
M.Tech. in I.T. (IS)	**- 24th June, 2004**
M.Tech. in I.T. (WCC)	**- 25th June, 2004**
M.Tech. in Bioinformatics	**- 26th June, 2004**
M.Tech. in I.T. (SE)	**- 27th June, 2004**

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